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ABSTRACT

To develop a comprehensive nutrition education program for preschool children, staff, families, and the community, a 2-year research and development project consisting of four components was implemented. For the first project component, non-sequenced, single-concept lessons geared to the cognitive, affective, and action characteristics of preschool children were produced. The lessons were taught initially to approximately 100 preschool children in a laboratory school and then were field-tested in 20 private preschool classrooms. An assessment instrument, the Northridge Survey of Understanding Nutrition - Preschool Level, was developed to measure outcomes of the educational intervention. To meet the objectives of the project's second component, in-service training emphasizing the recognition and application of the Dietary Guidelines for Americans and comprehension of the concept of high nutrient density was provided to staff of participating preschools. Project activities in the third component area focused on the development of six instructional modules, a teacher's guide, and coordinated materials for use by young children, staff and parents in group and home settings. For the fourth component, family/community education activities were conducted. Throughout the report, research and development activities and outcomes are reported in detail. Related materials, ranging from recipes to adult and preschool forms of the nutrition survey instrument, are provided in 15 appendices. (RH)

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FINAL REPORT

Establishing Nutritious Food Practices in Early Childhood

ED216769

USDA-FNS 59-3198-9-70

Gorelick, Molly C.
Clark, E. Audrey
Project Co-Directors

September, 1979 – September, 1981

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FINAL REPORT

ESTABLISHING NUTRITIOUS FOOD PRACTICES

IN EARLY CHILDHOOD

USDA-FNS-59-3198-9-70

September, 1979 - September, 1981

Submitted by

Molly C. Gorelick and E. Audrey Clark

California State University, Northridge

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Finally, it was the children who inspired us to begin this project. We are grateful for their active interest as program participants.

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ESTABLISHING NUTRITIOUS FOOD PRACTICES IN EARLY CHILDHOOD

ABSTRACT

A two year project partially funded by a United States Department of Agriculture, Food and Nutrition Services grant developed a comprehensive nutrition education program which included four components: direct service to preschool children, in-service training for early childhood staff, materials to use with all target populations and the extension of knowledge to families and communities. A major product of the project was the development and testing of a multimedia nutrition kit which included a teacher's guide, an assessment/evaluation module; a set of classroom activities; a recipe book; a group of audio-visual productions; a collection of materials and strategies for parent, teacher and community education, and a set of patterns for use in constructing classroom activities.

The materials and accompanying program were evaluated initially within the California State University, Northridge Preschool Laboratory where the program was developed, and then, in twenty field-site classrooms in the community. The classes were randomly assigned to treatment and control groups. Evaluation included pre- and posttests of the children's understanding of foods and nutrition concepts and their consumption of "mini-meals." Both on and off-campus populations showed overall significant improvement ($p < .01$) in food and nutrition knowledge as measured by the Northridge Survey of Understanding Nutrition - Preschool Level. It was found that the children's food consumption was high to begin with and, therefore, did not show a significant improvement. Information gathered from parents and teachers revealed a positive reaction to the project developed materials and a desire for more knowledge about nutrition.

The results support the contention that a nutrition education program can be effectively implemented with children as young as three to five years of age with varying levels of ability and disabilities. It was also demonstrated that learning opportunities can be organized in a series of single concept lessons rather than sequenced according to difficulty. In addition, it was shown that parents, teachers and the community can be reached by offering nutrition education programs designed to meet their expressed needs.

INTRODUCTION

NEEDS ASSESSMENT

Increased emphasis has been placed on the importance of good nutrition in child care by Federal and State legislation, such as the School Lunch Act, which provides grants in aid and other assistance to initiate, maintain and expand non-profit food service programs for public and private daycare organizations. State agencies, in conjunction with the United States Department of Agriculture - Food and Nutrition Services (USDA-FNS), require that early childhood facilities participating in the School Lunch Act must provide a particular portion of the daily food needs of children who remain in their care. Generally, the amount required is one-third to one-half of the child's daily nutritional needs. Other agencies and groups have recommended that even higher portions of the daily nutritional intake should be provided by early childhood centers. The White House Conference on Food, Nutrition and Health (1969) suggested that 80 percent of the child's total daily nutritional requirement should be provided in this manner.

Mandates such as these require that early childhood programs must address the nutritional requirements of young children. A further concern is that the food which is offered must be consumed in order for the children to realize its nutritional benefits. It is well documented that personal preferences, ethnic habits and other variables influence the selection of foods which a child will eat (Voichick, 1977; Steelman, 1976; DHEW, 1972). It has also been documented that children quickly develop preferences for "empty calorie" foods and low nutrient density foods if such items are prevalent in their diet during early life (Behar, 1975; Jackson, 1977).

The dietary habits of young children are highly dependent upon the adults that surround them. A study of preschool teachers (Clark, Gorelick, and Snook, 1978) demonstrated an inability to select foods of high nutrient density. The teachers' choice of foods was influenced by published recipes in books, newspapers and magazines that purported to be nutritious for children, but were, in fact, low in nutrient density. In addition, the preschool staff members were not able to predict accurately taste preferences of children. Nutrition education was found to be incidental to other classroom activities.

A number of needs were identified relative to materials required to present a foods and nutrition education program geared to the cognitive, affective and action levels of young children, their teachers and parents. Among these needs were assessment materials, a recipe book that accurately identifies the nutritional merit of the foods included, a bank of classroom activities, audio-visual materials and program materials for parent discussion groups and home instruction.

Family dietary practices carry over to what the children choose to eat in other settings. Improving family dietary practices and heightening awareness of the relationship between food consumption and health has been shown to be important to establishing nutritious food practices among children (FDA, 1970). It is incumbent upon those who work with parents to attempt to motivate good dietary practices if the consumption patterns of children are to improve.

In order to address the needs outlined above, a comprehensive project was proposed to the USDA-FNS in June, 1979. The proposed comprehensive program included four areas: direct instruction of early childhood aged children; in-service training of preschool staff members and university

students; development of materials appropriate for use with both children and adults; and outreach to parents and community.

MAJOR NUTRITION EDUCATION PROJECT GOALS

In consultation with United States Department of Agriculture - Food and Nutrition Services (USDA-FNS) representatives, two concepts were chosen as foci of the nutrition education program. They were the Dietary Guidelines for Americans and the Index of Nutritional Quality.

DIETARY GUIDELINES FOR AMERICANS

These Guidelines are based on the Dietary Goals for the United States which are an outgrowth of the United States Senate Select Committee on Nutrition and Human Needs (1977). Whereas the goals are stated in terms of specific levels of macro-nutrients (e.g., total fat 27-33 percent of intake), the Guidelines are stated in terms of the changes in diet that are needed by the majority of Americans to minimize health risks and maximize nutrition. The Guidelines used in the project are those that appear in the Home & Garden Bulletin No. 232 published by the U.S. Department of Agriculture and the U.S. Department of Health and Human Services.

INDEX OF NUTRITIONAL QUALITY

The concept of nutrient density is relatively new (Hansen, 1973; Sorenson and Hansen, 1975), and its method of calculation has not been standardized. It is a method of looking at the percent of recommended nutrient allowance for single or multiple nutrients in a portion of food in relation to the percent of energy requirement supplied by that same portion of food. It may be expressed as:

$$\text{Index of Nutritional Quality (INQ)} = \frac{\text{Percent Nutrient Allowance}}{\text{Percent of Energy Requirement}}$$

Foods having an INQ of one or more for a given nutrient are considered good sources of the nutrient.

The particular food standards used in this project for the nutrient and energy allowances of foods were the Recommended Dietary Allowances (RDA) of the National Academy of Sciences National Research Council for children one to three and children four to six years of age.

The INQ figures for eight specific nutrients have been added together to provide a composite index for each of the foods analyzed during this project. The eight nutrients investigated were protein, vitamin A, vitamin C, thiamin, riboflavin, niacin, calcium and iron. An INQ score was calculated which represented the total INQ for each food.

High nutrient density foods, thus, were defined as foods that are good sources of nutrients in relation to their supply of kilocalories. Low nutrient density foods were defined as poor sources of nutrients in relation to their kilocalorie content, or "empty calorie" foods. These categories have been expressed as "anytime" foods and "sometime" foods, respectively, in the classroom activities developed for the project. On the basis of the above rationale, the following guide for the selection of "anytime" foods was that the INQ score for the eight nutrients evaluated should total seven or more. A second consideration was that the food contain at least three nutrients with scores of one or better.

DESCRIPTION OF PROJECT SITE
AND ORGANIZATION CHART

California State University, Northridge (CSUN) is located in the San Fernando Valley in Los Angeles County. The population of the San Fernando Valley is estimated to be 1.5 million. The community includes people from all socioeconomic levels, racial and ethnic backgrounds. The University community enrolls approximately 27,000 students and reflects the racial and ethnic characteristics of the surrounding greater community. The University has the largest enrollment of students with handicaps of any campus in the state. The Home Economics Department is part of the School of Communication and Professional Studies (CAPS) (Figure 1). The setting for the project was the Home Economics Department's Preschool Laboratory which is located in buildings on one acre of land at the northwest side of the University campus.

The relationship among the CSUN Foundation, the Home Economics Department (an instructional unit of the CSUN School of Communications and Professional Studies), project staff, subjects and materials development personnel is illustrated in the Organizational Chart (Figure 1).

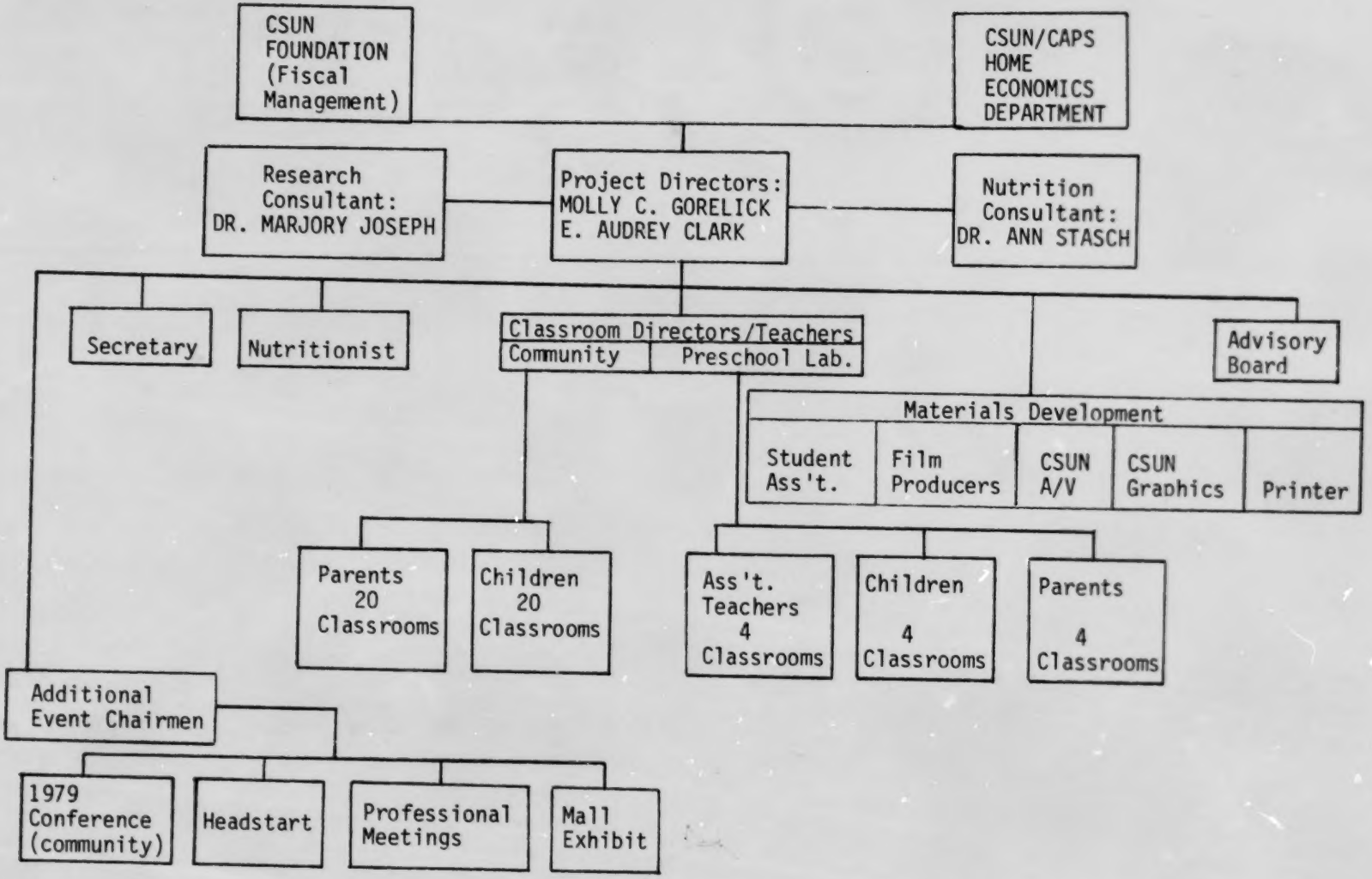


Figure 1
Organization Chart

OVERVIEW OF TIME FRAME

The program was funded for a two-year period from September, 1979 through September, 1981. After a short start-up period for staffing, work on the project objectives began in October, 1979.

Initiation Phase: Fall, 1979 Semester

Immediately upon staffing, project personnel initiated a search for assessment materials: namely, tools to measure consumption (plate waste), to evaluate the foods and nutrition sophistication of young children, and to survey the food and nutrition knowledge of adults. The search for these tools proved fruitless. No generally accepted instruments were found that suited the needs of the project. Project staff were, therefore, instructed by USDA-FNS consultants to develop the assessment instrument necessary to the project. The majority of the first semester of the project was devoted to this effort. In addition, a community conference to heighten nutrition awareness was held during this period.

Research and Development: Spring and Summer, 1980

Project developed assessment instruments were trial tested in the Preschool Laboratory at the beginning and end of the Spring semester, 1980. In addition, an intensive effort was mounted to identify and develop food and nutrition activities appropriate for the preschool classroom. These materials were introduced into the Preschool Laboratory as they became available. They were evaluated by the supervising teachers and revised when deemed necessary. Classroom activity devleopment continued through the summer of 1980.

A telephone survey was conducted to locate sites for an off-campus field study of the program.

In-service training of Preschool Laboratory staff took place during the orientation week preceding the Spring semester and at bi-weekly staff meetings thereafter. Nutrition education was conducted in university classes, as well. Parent education was attempted through bi-monthly "hands-on" discussion meetings prioritized according to the interests expressed by this group in the needs assessment.

Research and Development: Fall and Winter, 1980-81

The revised classroom activities were grouped into 12 activity sets and re-evaluated in the Preschool Laboratory classrooms in the early months of the Fall, 1980, semester. Additional staff was solicited to staff a field study which began in October, 1980. These staff members were trained for inter-examiner reliability and were assigned to their field positions in time to begin pretesting by October 6, 1980. The treatment phase of the field study took place between October 29 and December 11, and posttesting was completed in January.

The "I'm Hungry" filmstrip and "Good Nutrition: Try It, You'll Like It" audiovisuals were completed during this period.

Research and Development: Spring and Summer, 1981

Development of activities continued during the Spring semester of 1981, with emphasis on the production of ethnic and holiday activities. These were trial tested in the Preschool Laboratory and revised as indicated by teacher and student response.

Parent activities centered around two "hands-on" half day workshops and the production of Food·Nutrition Hot·Lines to disseminate

basic information about the Dietary Guidelines for Americans and the Index of Nutritional Quality.

Research results from the field study conducted during the previous fall and winter were analyzed and found generally to support the effectiveness of project developed materials.

Two new audiovisual productions were undertaken during late spring and summer: "The Index of Nutritional Quality" videotape and "Wolfie Gets Hungry," a filmstrip supporting ethnic diversity in diet and encouraging viewers to add variety to their dietary patterns.

Project Completion: Fall Semester, 1981

Fall, 1981, was primarily devoted to completing the audiovisual module, organizing and packaging the project materials for publication and institutionalizing nutrition education into the CSUN Preschool Laboratory Program.

In addition to these activities, an independent evaluation of the project was made: a nutrition consultant and a preschool program consultant were called in to view the program. The final report was written and post-project dissemination was initiated.

COMPONENT I

STUDENT INSTRUCTION

I. INTRODUCTION AND GOALS

Emphasis in student instruction was on providing prototype lessons geared to the cognitive, affective and action domains of learning for the preschool child. This is a departure from the original proposal of providing a semester-long sequence of lessons. The change was in response to a request by the USDA-FNS consultants. The lessons produced were each focused on a single concept and nonsequenced in order to achieve the utmost flexibility for fitting into any and all preschool programs.

Behavioral objectives were established. These objectives are delineated below along with project developed correlated learning opportunities and materials used to achieve the objectives.

OBJECTIVES	LEARNING OPPORTUNITIES	MATERIALS
	COGNITIVE DOMAIN	"GOOD NUTRITION: TRY IT, YOU'LL LIKE IT" MODULE
Distinguish and choose nutrient density "anytime" foods from low nutrient density "sometimes" foods.	View nutrition education film.	IV
	Play card, board and manipulative games.	II
Provide reasons for selecting high nutrient density foods.	View a videotape showing significant persons eating high nutrient density foods.	IV
Identify foods that reflect a particular cultural heritage.	Use food picture cards for identification, matching and classification.	II
	Participate in story circle discussions based on 35mm (or filmstrip) slide presentation.	IV

OBJECTIVES	LEARNING OPPORTUNITIES	MATERIALS
	COGNITIVE DOMAIN (continued)	
Identify persons in food-related careers and match them with the foods they produce or services they provide.	See puppet shows dramatizing the effects of good and poor nutrition practices, to health, tooth decay, obesity, behavior.	II VI
Describe the sequence of steps needed to grow some foods that are nutritious.	Use Growing and Harvesting Activities.	II
	ACTION DOMAIN	
Grow nutritious foods.	Children will use the Preschool Gardening center.	II
Select nutritious food to serve family and friends.	Entertain at an Open House featuring high nutrient density foods.	III, IV
Eat a variety of high nutrient density foods representative of various ethnic, racial and cultural groups.	Prepare high nutrient density foods in preschool learning centers to be served as snacks.	II, III
	Eat high nutrient density foods representative of various ethnic, racial and cultural groups at preschool snack time.	III
Engage in dramatic play around food themes representative of nutrition education objectives.	Use dramatic play "prop boxes" which include the elements needed for dramatic play around nutrition goals.	II
	Limit eating to prearranged times and places.	III
Establish good hygiene and health practices.	Wash hands before eating.	II
	Wash teeth after eating.	II
Demonstrate knowledge of the following concepts related to food protection: a) Hands should be washed before touching food. b) Each person should have individualized eating utensils. c) Some foods must be refrigerated. d) Some foods must be washed before consumption. e) Teeth should be washed after eating.	Listen to stories and flannel board presentations.	II

OBJECTIVES	LEARNING OPPORTUNITIES	MATERIALS
	AFFECTIVE DOMAIN	
Share and enjoy favorite foods of different cultural groups.	Use flannel board stories designed to emphasize foods of other ethnic, racial, and cultural groups.	II
Express pride in identification with foods unique to child's ethnic, racial or cultural background.	View audio/visual aids and participate in flannel board stories about helping with foods and appreciating diet diversity.	II, IV
Display a positive attitude toward trying new foods.		
Express desire to help with food preparation.	Sharing food preparation activities at home and school.	III
Recognize that "feeling good" requires good nutrition.	Videotape of significant persons displaying good nutrition practices.	IV
	Inviting peers to an "anytime" food event.	III

II. ON-CAMPUS PHASE

SUBJECTS AND SETTING

The target population included CSUN Preschool Laboratory students who participated in the development and research phase. Subjects included children from the CSUN Preschool Laboratory. Approximately sixty-five children between the ages of three to five were enrolled each semester. The turnover rate of children during the two-year program was approximately 50 percent, therefore, making the total number of preschool children exposed to the program in the 24-month project around 100. The children represented varied ethnic, racial, and cultural backgrounds

(primarily Caucasian, middle-class). Approximately 15 percent of the children had developmental disabilities. The children were grouped in four classes, each containing ages from two years nine months to five; two meeting in the morning Monday through Friday and two meeting in the afternoon, Tuesday, Wednesday, and Thursday. Classes were two and one-half hours in length. No consistent program of nutrition education had been incorporated into the school curriculum prior to initiation of the USDA-FNS project.

PROCEDURE AND RESULTS

Spring, 1980, Pretesting

Northridge Survey of Understanding Nutrition - Preschool Level (NSUN-PL)

Initiation of the on-campus phase of research and development began in February, 1980, with the administration of individual assessments of the Northridge Survey of Understanding Nutrition-Preschool Level (NSUN-PL), a project-developed instrument that is closely related to the objectives of the program. Each child in the program with the exception of children known to have developmental disabilities was assessed by a member of the project staff. Procedures for administering the NSUN-PL are detailed in Module I: Assessment and Evaluation.

Consumption Index Pretesting

In addition to pretesting the children's understanding of food and nutrition objectives, project staff also collected initial data on the children's consumption of twelve foods grouped into five snacks.

The snacks used in the consumption index testing were chosen by the project nutritionist because they represented the four basic food groups,

were high in nutrient density, and were assumed to be relatively unfamiliar to the children.

The snack menus assessed are listed in Figure 2. The method of measuring consumption is outlined in Appendix A.

Educational Intervention - Formative Period

Nutrition education lessons were presented in the CSUN Preschool Laboratory classrooms on a three day per week schedule (Tuesday, Wednesday, and Thursday) for ten weeks. Three activities were presented each day on which nutrition education took place. This was a formative period in the development of lessons. The project nutritionist provided sample lessons. The teaching teams wrote the rest of the lessons and submitted them to the nutrition project staff for review before classroom implementation.

Posttest

CSUN Preschool Laboratory children were retested on the NSUN-PL between May 5 and May 16. Post-consumption assessments were made between May 5 and May 9, using the same procedure and foods that were used during the pretest period.

Results

Pre- and post NSUN-PL data were analyzed by Chi Square and t tests to identify the significance of changes made over the course of instruction. Significant improvement was indicated in all areas except for classification of fruits, matching concrete examples of foods to pictures and handwashing (Table 1). Lack of significance in change in the matching task can probably be attributed to the high scores (94 to

DATE	SNACK	MEASUREMENT UNIT
Monday February 11 May 5	Milk Pear Slices Peanut Butter Oatmeal Dip: 1¼ C. peanut butter 2/3 C. Toasted Oats (Quick or Old-Fashioned oats baked in 350 oven on ungreased cookie sheet for 15-20 minutes) 1/2 C. Honey (Combine and mix well.) Serve as spread on crakers and fruit. Store in refrig. Yields 1½ cups.	ounces Count slices 1 tsp in separate cup
Tuesday February 12 May 6	Milk Sweet Potato Bread (See attached recipe)	ounces Cut in 1/4 slices Each 1/4 = 1 piece
Wednesday February 13 May 7	Grapefruit Wedges (peeled) Whole Wheat Pita Bread Sticks Open pita bread and spread margarine on inside. Cut into sticks and place on cookie sheet under broiler until toasted.	Count wedges Count sticks (try to serve sticks uniform in size)
Thursday February 14 May 8	Cran-Apple Juice Heart Sandwiches Cut heart shape out of whole wheat bread. Spread with softened cream cheese that is tinted pink.	ounces 1 heart = 1 piece
Friday February 15 May 9	Bagel section Avocado Slice Orange Juice	1/4 bagel = 1 piece 1 slice in separate cup ounces

Figure 2
Consumption Index Snack Menus
Used in CSUN Preschool Laboratory
Pre- Posttesting, Spring, 1980

Table 1

Pre- Posttest Performance of Preschool Laboratory Students on NSUN-PL Analyzed by Chi Square (Spring, 1980)

Item	Chi Squares	Pre-/Post Percents	df	p <
Part IA: Ident. Fruits	37.694	32/61	2	.001
Part IB: Ident. Veg.	10.214	37/50	2	.01
Part IC: Ident. Breads	28.002	31/45	2	.001
Part II: Vegetables (Classif.)	9.363	63/76	2	.01
Part II: Fruits (Classif.)	4.508	57/66	2	NS
Part III: Matching	3.757	94/97	2	NS
Part IVA: Handwashing	5.101	74/89	2	.10
Part IVB: Toothbrushing	1.244	64/58	2	NS
Part V: Food Preparation	45.613	30/67	2	.001
Part VI: Food Choice	10.486	56/75	2	.01
Part VIB: Food Choice	12.185	59/73	1	.001

N = 216 pretest
220 posttest

97 percent correct) obtained in these competencies by most students on the pretest. Classification of fruits and vegetables and handwashing scored moderately high on the pretest (57 to 66 percent, 63 to 76 percent, and 74 to 89 percent, respectively).

Consumption Index Results

Inconsistencies between pretesting and posttesting created by differing qualities of produce and preparation techniques precluded reliable statistical results. Rather than report statistics which might be misleading, simple increases and decreases in average units eaten were noted.

The following foods showed an increase from pretesting to post-testing:

Snack 1: pear, milk

Snack 2: sweet potato bread, milk

Snack 4: whole wheat bread with cream cheese spread

Snack 5: grapefruit, pita bread and water

These foods showed a decrease in consumption:

Snack 3: bagel, avocado, orange juice

Snack 4: cranberry juice

On the basis of the trial test experience, the consumption index procedures (Appendix A) were revised for the Phase II - off-campus field trials.

Lesson plans for activities presented in Spring, 1980, and regarded as successful may be found in Classroom Activities: Module II of the "Good Nutrition: Try It, You'll Like It" program.

Fall, 1980: On-Campus Trial Testing of Activity Sets

Selected lessons from Classroom Activities: Module II of "Good Nutrition: Try It, You'll Like It" Program were arranged in sets of three complementary activities each. The sets were further evaluated in the Preschool Laboratory classrooms for the following criteria:

1) Ease of presentation.
2) Enjoyment by children.
3) Clarity of instructions.
4) Adaptability to various educational settings.
5) Use of inexpensive props easily constructed by teachers.
6) Permits a single-concept presentation.
7) Fits half-day time schedule.
8) Developmentally appropriate.

Teacher report and student performance were taken into account in selecting a final group of twelve activity sets for field evaluation.

Spring, 1981: Continuation of Testing and Development of Materials - On-Campus

Pretest

Eighteen children new to the CSUN Preschool program in the 1980-81 academic year and six children with developmental disabilities were assessed using the NSUN-PL.

Educational Intervention

Nutrition education continued in all four classrooms of the CSUN Preschool Laboratory, on a twice a week schedule. One day each week was devoted to trial testing activities adapted from the off-campus field-test sets. These activities used the field-tested format, but substituted

different foods. The second day each week was used to trial test holiday and/or ethnic food and nutrition lesson plans developed by the supervising teachers. The lessons which were judged successful are detailed in Module II: Classroom Activities of the "Good Nutrition: Try It, You'll Like It" program and identified as holiday or ethnic activities.

Posttest

All children who were pretested prior to the Spring, 1981, nutrition education program, were posttested using the NSUN-PL during the last two weeks of the semester.

Results/Discussion

Analysis of variance between pretest and posttests indicated highly significant improvement by both the children new to the program and those with developmental disabilities (Tables 2 and 3).

Results of NSUN-PL Pre- and Post Assessments of Children New to the Preschool Laboratory in Academic Year 1980-1981:

Eighteen children who were enrolled in the Preschool Laboratory program for the first time in the academic year of 1980 to 1981 were assessed. Mean scores of the group were raised from 53.33 to 62.33 out of a possible 75 point total ($p < .01$). The group assessed included a random sample of newcomers to the program with the exception of the children with developmental disabilities. The examiner was a research assistant fully trained in the administration of the NSUN-PL instrument.

Individual items on the test did not show significant improvement by the group of subjects. This is consistent with expectations for the number of children examined when a scale is divided into limited range segments.

Table 2

Analyses of Variance of NSUN-PL Pre Posttest Scores
of Students New to the Preschool Laboratory
1980-1981

TEST ITEM	PRETEST MEAN	POSTTEST MEAN	MS ASSESSMENT	MS RESID.	F	p <
PART I: IDENTIFICATION						
Verbal: Fruits	4.22	5.00	5.44	4.74	1.49	.29
Nonverbal: Fruits	3.78	4.00	.44	.21	2.13	.15
Total: Fruits	8.00	9.00	9.00	5.24	1.72	.20
Verbal: Vegetables	4.94	5.33	1.36	5.97	.23	.63
Nonverbal: Vegetables	3.67	4.00	1.00	.35	2.83	.10
Total: Vegetables	8.61	9.33	4.69	6.95	.67	.42
Verbal: Breads	3.17	3.16	1.78	4.49	.40	.53
Nonverbal: Breads	3.22	3.61	1.36	.81	1.69	.20
Total: Breads	6.39	7.22	6.25	6.69	.94	.34
PART II: CLASSIFICATION						
Vegetables and Breads	10.28	12.89	61.36	9.10	6.74	.01
PART III: MATCHING						
Total	3.67	3.94	.69	.56	1.25	.27
PART IV: HEALTH IMPLICATIONS						
Handwashing	1.17	2.00	6.25	.49	12.88	.001
Toothbrushing	1.33	1.50	.25	.97	.26	.61
Total: Health	2.50	3.39	7.11	1.73	4.11	.05
PART V: FOOD PREPARATION	1.56	2.00	1.78	.37	4.86	.03
PART VI: FOOD CHOICES	2.06	2.78	4.67	2.30	2.05	.16
PART VII: FOOD CHOICES	8.67	9.44	5.44	4.19	1.30	.26
GRAND TOTAL	53.33	62.33	729.00	87.41	8.34	.01

df main effect (assessment) = 1
df residual = 10

N = 18

Results of NSUN-PL Pre- and Post Assessments of Children with Developmental Disabilities in Spring, 1981:

NSUN-PL, pretesting and posttesting results (Table 3) indicated that children with developmental delays did learn a significant amount about nutrition and foods over the period of nutrition education during the Spring, 1981, semester. Mean scores moved from 30.50 to 42.67 out of a possible 75 point total ($p < .05$). Although eight children with problems of speech, mental retardation and emotional illness were "mainstreamed" in the Preschool Laboratory program during Spring, 1981, only six were testable. The two children who were not testable were diagnosed as autistic and/or developmentally delayed. This very small sample makes significant statistics even more impressive.

Inspection of pre- and posttest means shows the following trends:

1) The majority of items where significant gains took place were in identification and matching tasks.
2) The item documenting the most significant learning was the desirability of handwashing before eating (Table 3: Item IV). The type of teaching techniques used to present this concept were concrete experiences motivated by teacher example and ritualistic games.
3) Significant improvement did not occur on the more complex cognitive questions (e.g., classification and problem-solving).
4) The nonverbal form of the assessment was important to the success of these children. Means showed more gain on nonverbal than verbal answers.
5) Although the children with developmental delays scored lower at the pretest, they made a slightly greater

Table 3

Analysis of Variance of NSUN-PL Pre- Posttest Scores Among Children with Disabilities in the Preschool Laboratory Spring, 1981

TEST ITEM	PRETEST MEAN	POSTTEST MEAN	MS ASSESSMENT	MS RESID.	F	p <
PART I: IDENTIFICATION						
Verbal: Fruits	1.00	1.00	0.00	2.00	0	1.00
Nonverbal: Fruits	2.00	3.67	8.33	2.13	3.91	.08
Total: Fruits	3.00	4.67	8.33	4.93	1.69	.22
Verbal: Vegetables	0.00	1.17	4.08	.88	4.62	.06
Nonverbal: Vegetables	1.50	3.17	8.33	2.83	2.94	.12
Total: Vegetables	1.50	4.33	24.08	3.08	7.81	.02
Verbal: Breads	1.17	2.00	2.08	2.68	.77	.40
Nonverbal: Breads	1.83	3.00	4.08	1.88	2.19	.17
Total: Breads	3.00	5.00	12.00	4.40	2.73	.13
PART II: CLASSIFICATION						
Vegetables and Fruits	9.00	9.67	1.33	8.93	.15	.71
PART III: MATCHING						
Total	3.00	4.00	3.00	1.40	2.14	.17
PART IV: HEALTH IMPLICATIONS						
Handwashing	1.00	2.00	3.00	.60	5.00	.05
Toothbrushing	.33	.67	.33	.87	.39	.55
Total	1.33	2.67	5.33	1.87	2.86	.12
PART V: FOOD PREPARATION						
Total	1.00	1.33	.33	1.33	.29	.60
PART VI: FOOD CHOICES						
Total	1.00	1.33	.33	1.33	.29	.60
PART VII: FOOD CHOICES						
Total	7.00	7.33	.33	7.53	.04	.84
GRAND TOTAL	30.50	42.67	444.08	34.36	13.03	.01

W = 6

df: main effect (assessment) = 1; residual = 10

absolute gain in scores than the comparison group of children without handicaps at the posttest.

These results were in agreement with the findings from the Spring, 1980, on-campus study and the Spring, 1981, field-study.

The research design of this small group study featured pretest and posttest assessment of an intact group. It was not possible to provide a matching control group, because of the unique character and wide range of disabilities included in the group. The limitations of this design prohibits generalization of findings to other groups of children with developmental disabilities. The significance of the results on these few children, however, encourages further attempts to include children with developmental disabilities in nutrition education programs.

Fall, 1981: Adoption of Program

The nutrition education program was adopted during this semester with CSUN Preschool Laboratory staff taking over responsibility for all activities. A random sampling of twenty-one children new to the program were pretested by the NSUN-PL (Table 4). Teachers presented nutrition activities twice a week, using the prototype lesson plans developed during the project, but without restriction as to foods to be presented. The project termination date was September 30, 1981. The "Good Nutrition: Try It, You'll Like It" Program will continue as an integral component of the CSUN Preschool Laboratory curriculum.

Table 4
NSUN-PL Mean Scores by Age of Students
New to the Preschool Laboratory
Fall, 1981
before Nutrition Instruction

Ages	N	Mean Score
2 Yrs. 9 Mon. to 3 Yrs. 5 Mon.	13	32.77
3 Yrs. 5 Mon. to 3 Yrs. 11 Mon.	4	46.50
3 Yrs. 11 Mon. to 4 Yrs. 5 Mon.	3	43.33
4 Yrs. 5 Mon. to 4 Yrs. 11 Mon.	1	34.00
TOTAL	21	36.95

III. OFF-CAMPUS FIELD STUDY PHASE - October, 1980 through January, 1981

BACKGROUND

In the original proposal, the nutrition education program developed on-campus was to be field tested in Los Angeles City operated Childrens' Centers. However, the USDA-FNS consultants approved the project co-directors' suggestion that the project concentrate on private preschools rather than the public centers since the private schools would be less likely to be receiving nutrition education than those schools obtaining public funds.

SUBJECTS AND SETTINGS

The off-campus student group included in the target population were children from 20 private proprietary or nonprofit classrooms in the San Fernando Valley. These classrooms were chosen through a

process that began with a telephone survey.

The telephone survey was initiated in January, 1980. Contact was attempted with directors of all privately licensed early childhood programs located in the San Fernando Valley. The list of schools was obtained from the Child Care Resource Center (N = 127). See Appendix B for the Telephone Survey Form developed for use in obtaining field sites. Contact was actually established with fifty-six directors. Each director was asked if her/his school would be available to participate in the project field study. Forty-six of the schools polled indicated an interest in participating. Of these forty-six, fourteen schools were selected that were close to the University and had schedules compatible with the research schedule. Twenty classrooms from these fourteen schools provided the subject pool for the off-campus research.

PROCEDURE

The twenty field-site classes were randomly assigned to four groups as diagrammed below; thus providing tight control of such factors as test-wiseness and intervening circumstances such as holidays. All children in the classes designated for pretesting were assessed using the NSUN-PL and the revised Consumption Index Procedures (Appendix A). At the time of posttesting the classes were reviewed for attrition. If more than ten children remained in a class, the extras above ten were randomly cast out to create equal groups.

Group I	o	x	o
Group II	o		o
Group III		x	o
Group IV			o

(o = Measurement of dependent variables)
(x = Nutrition education)

The treatment phase consisted of twelve (12) activity sets. Each of the twelve sets was comprised of a snack and two or three foods and nutrition education activities ("Good Nutrition: Try It, You'll Like It" program, Module II). Activity sets were presented twice a week over a six-week period. NSUN-PL and Consumption Index pretests were given in October, 1980. In addition, initial baseline observations were made by the research assistants on the regular program in progress at the different schools (Appendix C). Observations of nutrition education activities and snack times were continued throughout the research period to monitor the intervention techniques. The pretests were immediately followed by the treatment period. Training of research assistants and off-campus teaching staff is described in Component II In-Service Training of this report. There was a three- to four-week lapse of time between the end of the treatment period and NSUN-PL and Consumption Index posttesting in January, 1981.

RESULTS

Analysis of pre- and posttest data on Group I (Pretest/Treatment/Posttest) (Table 5). The data indicated that there was an improvement in NSUN-PL scores of 12.80 points. Analysis of variance resulted in a F of 29.878, significant at the .001 level. Scores improved significantly on all items in Part I (Identification), Part III (Matching), the first half of Part IV (Hygienic Practices), Part VI (Food Choices) and Part VII (Food Choices: Selection of High INQ Foods). The only areas that did not show significant improvement were the second item in Part II (Classification - a skill that is usually not well developed until five (5) to seven (7) years of age) Part IV: Item 2 (Toothbrushing) and Part V (Food Preparation).

Table 5

Analyses of Variance of NSUN-PL Pre- Posttest Scores
Field Study Group I
(1980-1981)

Test Item	Pretest Mean	Posttest Mean	F	p <
Part I: Verbal Ident. of Fruits	2.21	3.48	8.950	.004
Part I: Nonverbal Ident. of Fruits	2.94	3.61	8.409	.005
Part I: Total Ident. of Fruits	5.19	7.09	11.551	.001
Part I: Verbal Ident. of Vegetables	2.35	4.65	26.576	.001
Part I: Nonverbal Ident. of Vegetables	3.02	3.63	6.389	.013
Part I: Total Ident. of Vegetables	5.38	8.28	27.326	.001
Part I: Verbal Ident. of Breads	2.56	3.67	8.140	.005
Part I: Nonverbal Ident. of Breads	2.29	3.41	26.365	.001
Part I: Total Ident. of Breads	4.79	7.13	20.916	.001
Part II: Total Vegetable Classification	5.21	5.96	1.958	.165
Part II: Total Fruit Classification	4.46	5.22	4.483	.037
Part II: Total Classification	10.92	11.09	.015	.904

Table 5 (continued)

Test Item	Pretest Mean	Posttest Mean	F	p <
Part III: Matching	3.31	3.87	8.028	.006
Part IV: Handwashing	1.17	1.70	9.690	.002
Part IV: Toothbrushing	1.19	1.50	2.093	.151
Part V: Food Preparation	.88	1.13	1.525	.220
Part VI: Food Choices	2.38	3.00	4.323	.040
Part VII: Food Choices	8.29	9.22	4.173	.044
Grand Total	43.46	56.26	29.868	.001

N = pretest 48
posttest 46

df = 1

Comparison of four treatment groups on posttest scores. Inspection of means (Table 6) show that Group I and Group III (the two groups that experienced the foods and nutrition program) exceeded the performance of Control Groups II and IV except in the areas of Part II (Classification) and Part IV: Item 2, and Part V (Food Preparation). Analysis of variance of the scores and age by group (Table 7) show that the type of treatment was significant at $p < .01$ in Parts I, IV (Item A), VII and for the total score. This indicates that the foods and nutrition education program was highly effective in increasing foods and nutrition knowledge in identification of foods, understanding of the practice of handwashing before eating and choosing foods with a high nutrient content. Age was also a significant factor ($p < .05$ in Parts I: Item 1; IV, Item 2; VII and for the entire assessment).

Consumption Index subject procedure - Results and Discussion. Consumption of twelve (12) test snacks by children from twenty (20) field sites was evaluated pre- and post treatment according to the Solomon design. Revised consumption testing procedures and forms were used (Appendix A). The snack menus and dates of testing are listed in Figure 3. No significantly greater amount of food was consumed by the experimental subjects (Field-Site Group I) on the posttest than on the pretest (Table 8). The most likely explanation for this result is the high level of food intake by all children at the pretest. Neither was there a significantly greater amount of the test food consumed by the experimental subjects than by the controls at the posttest (Table 9). Although foods included in the tests were reported to be low on the list of children's preferences, the children ate nearly everything that was presented at both pre- and posttests.

Table 6

Mean Scores Preschool Field Research Groups
NSUN-PL Posttest, 1981
Analysis of Variance

Test Item	Group I	Group II	Group III	Group IV
Part I: Verbal Ident. Item 1	3.48	3.02	3.49	2.45
Part I: Nonverbal Ident. Item 1	3.61	2.83	3.55	3.04
Part I: Total Ident. Item 1	7.09	5.85	7.04	5.49
Part I: Verbal Ident. Item 1	4.65	3.13	4.64	2.77
Part I: Nonverbal Ident. Item 1	3.63	2.91	3.83	3.17
Part I: Total Ident. Item 1	8.28	6.04	8.47	5.94
Part I: Verbal Ident. Item 3	3.67	2.94	3.74	2.43
Part I: Nonverbal Ident. Item 3	3.41	2.57	3.15	2.57
Part I: Total Ident. Item 3	7.13	5.51	6.89	5.00
Part II: Total Vegetable Classification	5.96	5.91	6.77	6.13
Part II: Total Fruit Classification	11.09	10.51	12.00	11.32
Part III	3.87	3.77	4.00	3.70

Table 6 (continued)

Test Item	Group I	Group II	Group III	Group IV
Part IV Item 1	1.70	1.30	1.66	1.32
Part IV Item 2	1.50	1.32	1.38	1.51
Part V: Total	1.13	.81	.77	.68
Part VI: Total	9.22	8.77	9.40	8.30
Grand Total	56.26	48.15	57.21	47.38
n =	46	47	47	47

N = 187

Table 7

Analyses of Variance
NSUN-PL Posttest Scores Among Preschool
Field Groups by Treatment and Age
(1981)

	Treatment Group		Age	
Item	F	p	F	p
Part I: Verbal Ident. Item 1	2.810	.041	2.573	.056
Part I: Nonverbal Ident. Item 1	6.055	.001	4.315	.006
Part I: Total Ident. Item 1	4.597	.004	3.439	.018
Part I: Verbal Ident. Item 2	8.621	.001	1.050	.372
Part I: Nonverbal Ident. Item 2	6.950	.001	.293	.830
Part I: Total Ident. Item 2	10.303	.001	.821	.484
Part I: Verbal Ident. Item 3	5.161	.002	.488	.691
Part I: Nonverbal Ident. Item 3	6.029	.001	.623	.601
Part I: Total Ident. Item 3	7.709	.001	.771	.512
Part II: Total Vegetable Classification	1.439	.233	.044	.987
Part II: Total Fruit Classification	1.997	.116	.184	.907

Table 7 (continued)

Item	Treatment Group F	Treatment Group p	Age F	Age p
Part III	1.997	.116	.612	.608
Part IV: Item 1	2.714	.046	.184	.907
Part IV: Item 2	.497	.685	2.891	.037
Part V: Total	1.714	.166	.941	.422
Part VI: Total	1.477	.222	1.193	.314
Part VII: Total	2.309	.078	3.953	.009
Grand Total	10.523	.001	3.211	.024

df = 3
N = 187

DATES	MENUS	AMOUNTS PER PLATE
Oct. 20	Pineapple pieces	2 pieces
Oct. 21	Apple wedges	2 pieces = 1/4 apple
	Dried apricot	2 pieces - 1 dried apricot
	Stone wheat cracker	2
	Water	4 ounces
Oct. 22	Bagel	2 pieces - 1/4 bagel
Oct. 23	Tortilla	2 pieces - 1/4 tortilla
	Whole wheat pita bread	2 pieces - 1/4 whole wheat pita
	Milk	4 ounces
	Water	4 ounces
Oct. 27	Zucchini sticks	2 sticks
Oct. 28	Carrot sticks	2 sticks
	Celery sticks	2 sticks
	Stone wheat crackers	2
	Water	4 ounces

Figure 3

Consumption Index Menus
Used in Field Study
1980-1981

Table 8

Analyses of Variance of Amount of Food Consumed
Before and After Nutrition Education
by Field-Site Group I
(1980-1981)

Food	F	p <
Food 1	.377	.551
Food 3	.004	.948
Food 4	.064	.804
Food 5	.038	.849
Food 6	.155	.701
Food 7	.095	.763
Food 9	.236	.636
Food 10	.234	.637
Food 11	.507	.490
Food 12	.549	.473

N = 90
df - 1

Table 9

Analyses of Variance Among Four Field-Site Treatment Groups in Amounts of Foods Consumed (1981)

Food	F	p <
Solid 1	.119	.948
Solid 3	.161	.922
Solid 4	.640	.596
Solid 5	.590	.627
Solid 6	.489	.693
Solid 7	.555	.649
Solid 9	.365	.779
Solid 10	.420	.740
Solid 11	.352	.788
Solid 12	.173	.914

N = 90
df = 3

IV. DISCUSSION AND CONCLUSIONS

Both on and off-campus target populations showed overall significant improvement in food and nutrition knowledge from beginning to end of the project as measured by the NSUN-PL. These results support the contention that a nutrition education program can be effectively implemented with children as young as three to five years of age with varying levels of ability and disabilities. It was also demonstrated that learning opportunities can be organized in a series of single concept lessons rather than sequenced according to difficulty. The success of this type of curriculum organization permits its application to a wide variety of early childhood program designs.

Relative to the measurement of the consumption of foods, the revised procedures and forms which were used in the off-campus field study were easily administered and accurate. The lack of significant results was due to an unexpected high pretest consumption of foods by the children. The high pretest consumption of the snack foods may have been due to the novelty of the foods or other variables such as hunger. While the food consumption results were not significant, it was gratifying to observe that children would eat high nutrient density foods. In order to measure food consumption changes more effectively, it is suggested that future researchers offer the children a choice between foods of low and high nutrient density. Perhaps the offering of choices will reveal changes in pre- and post treatment preferences.

COMPONENT II

IN-SERVICE TRAINING COMPONENT

The rationale used in developing an in-service nutrition education program for preschool staff was based on an integrative theoretical approach (Appendix D). In the in-service component, John Dewey's pragmatic approach, "learn by doing," was emphasized.

For years teachers have objected to in-service training programs which have emphasized didactic theoretical and/or research materials. Instead they have called for materials that can be used easily and effectively in the classroom. Therefore, the guidelines used in developing the format of the in-service training workshops contained these elements:

a) high interest presentations;

b) clear communication of content--simple descriptions;

c) active involvement of the participants;

d) simulation of classroom groupings;

e) a variety of tasks representing the cognitive, psycho-motor, affective and creative domains;

f) demonstration of materials which can be made easily by teachers or are economical to purchase;

g) utilization of group interaction to act as a support system to bring about and continue positive changes in nutrition behavior.

TARGET POPULATIONS AND MAJOR GOALS

In-service training was provided to staff working in the CSUN Preschool Laboratory and off-campus preschools. Emphasis was on recognizing and applying the Dietary Guidelines for Americans and understanding

the concept of high nutrient density as measured by the Index of Nutritional Quality. It was hoped that if teachers recognized the importance of these ideas and understood them, they would be able to apply them to the nutrition education and food service components of their programs. Emphasis was also placed on extending the staff repertory of food and nutrition related classroom activities.

Specific behavioral objectives for staff and activities used to implement them are as follows:

COGNITIVE DOMAIN

Behavioral Objectives

Select high nutrient density foods for young children.

Select foods preferred by children from different ethnic, racial and cultural backgrounds.

Know health reasons for providing young children foods of high nutrient density.

Learn methods of presenting nutrition education to young children.

Become familiar with nutrition education resources.

Know typical diet differences and problems of preschool children.

Activities

Attend Home Economics classes on Community Nutrition, Child Nutrition, Nutrition for Life and Child Development (Appendix L).

Read articles on the importance of high nutrient density foods.

Read articles on foods of various racial, ethnic and cultural groups.

See movies on the reasons for good nutrition.

Plan lessons for children using the "Good Nutrition: Try It, You'll Like It" program.

Attend workshops specific to nutrition education of preschool children.

AFFECTIVE DOMAIN

Behavioral Objectives

Increase tolerance of multicultural, ethnic and racial foods.

Stimulate desire to eat and serve high nutrient density foods.

Stimulate desire to serve foods in attractive, hygienic environment.

Activities

Invite parents to share favorite recipes.

Integrate and model good attitudes throughout the curriculum.

Arrange a nutrition fair.

ACTION DOMAIN

Behavioral Objectives

Model good nutrition practices.

Assist in developing instructional materials appropriate to the cognitive, affective and action levels of young children.

Demonstrate the incorporation of nutrition education lessons into the regular preschool curriculum.

Provide high nutrient density foods for the dietary component of the preschool program. These foods should be representative of racial, ethnic and cultural preferences of the entire group.

Work cooperatively with parents to improve family feeding practices.

Assist in research leading to better understanding of children's nutrition.

Activities

Eat high nutrient density foods in the presence of children.

Express attitudes of acceptance and interest in foods of other groups and foods that are nutritious.

Trial test the "Good Nutrition: Try It, You'll Like It" program and its component parts in the preschool classroom.

Invite parents to visit the preschool and share high nutrient density foods typically served in their homes.

Plan preschool menus and food activities under supervision of nutritionist.

Accumulate evaluation data on "Good Nutrition: Try It, You'll Like It" program and its components, as well as on children's dietary habits.

PROCEDURE AND RESULTS

In-service proceeded differently for each of the target populations.

Preschool Laboratory Staff training began with a series of in-service meetings which are outlined below. It should be noted that a needs assessment (NSUN-AL) was conducted at the first meeting. Results were used to formulate the content for the remainder of the in-service training.

Preschool Laboratory Staff Meetings

Meeting 1: Orientation Workshop (1/23/80)
- Administered NSUN-AL.
- Lectured on principles of curriculum design.
- Introduced lesson plan rationale and forms.
- Presented overview of USDA-FNS project.
- Demonstrated adults' reaction to unknown foods (anise, gobo) drawing similarities to child's exploratory methods when introduced to an unknown food.

Meeting 2: Gearing Nutrition Education to Preschool Programs (2/1/80)
- Reviewed semester activities.
- Viewed movie "Jenny's a Good Thing" (Headstart movie from Modern Talking Pictures).
- Discussed developing and implementing nutrition education learning opportunities.
- Presented National Dietary Goals and INQ.
- Assigned staff to develop a lesson plan.
- Distributed educational handouts.

Meeting 3: Foods for Classroom Snacks (2/8/80)
- Collected lessons developed by staff.
- Distributed first set of lessons to be used in classroom.
- Discussed reminders for effective nutrition lessons.
- Demonstrated Consumption Index procedures.
- Discussed/demonstrated sugar and its consumption, cereals and "Facts" (handouts).
- Distributed Handouts*
- Planned Parent Discussion I.

*See Module V - "For Parents and Teachers"

Meeting 4: Coordination of Nutrition Lessons and Snacks (2/22/80)
- Discussed complementing lesson plans with foods served at snacktime.
- Critiqued lessons implemented to date.
- Previewed lessons to be carried out 2/25, 26, 27, 28.
- Planned Parent Discussion II.

Meeting 5: Evaluation, Planning and Review of Nutrition Program (3/7/80)
- Discussed good snacks.
- Introduced protein complements (to reduce red meat).
- Planned Parent Discussion III.

Holiday Event: Easter Egg Hunt: "Healthy" Carnival Food Table (3/28/80)
- Prepared foods of greater nutritional value than the typical "party" foods (e.g., popcorn and fruit juice).
- Distributed a handout of alternative holiday food ideas to cut down on the traditional sweet confections.

Meeting 6: More About Index of Nutritional Quality (4/25/80)
Reviewed lesson plans for next period.
Discussed the Index of Nutritional Quality (INQ) and how it works.

Meeting 7: Understanding Complex Carbohydrates (5/2/80)
Reviewed Simplex and Complex CHO (handout).
Reviewed procedures for Consumption Index posttest.
Planned Parent Potluck for 5/9/80.

The in-service training meetings were continued in succeeding semesters by the head teachers. A review of the nutrition project was conducted each semester during staff orientation week to insure that new staff members were familiarized with goals and procedures.

The project nutritionist interviewed and administered a short nutrition information survey to each CSUN Preschool Laboratory student assistant in mid-semester of Spring, 1981 (Appendix E). The purpose of these interviews was to see if the in-service nutrition education was continuing to be effective and to determine if initial input was necessary.

A total of eight assistant teachers participated. Their comments indicated approval of the project designed lessons and recipes. They wanted more background information on specific foods. All assistants were able to name at least three high nutrient density snacks to serve the children.

A primary component of the Laboratory staff in-service training was the involvement of staff in arranging parent programs and in facilitating children's classroom activities based on the emphasized food and nutrition concepts. (See "Good Nutrition: Try It, You'll Like It" program, Module II: Classroom Activities, for listing of lessons developed.) Staff was also immediately faced with the necessity of choosing snacks compatible with the project goals. The project

nutritionist made herself available for consultation in regard to these activities.

Off-Campus Private Preschool Staff

The twenty classrooms involved in the field study were randomly assigned to control or experimental groups according to the four group Solomon design (page 26).

All groups were observed prior to project initiation to determine the nature of nutrition education (if any) and the composition of snacks.

Staff members of the treatment groups were invited to attend one of two in-service meetings prior to the treatment phase. They were instructed in using the twelve sets of lesson plans comprising the treatment. Basic goals of the project were enumerated, each activity was demonstrated and opportunity was provided for questions and answers. Seventy percent of experimental classes were represented at these meetings.

Additional training was provided by supplying teachers with written lesson plans of each activity. Lesson plans were delivered to the schools along with all of the necessary materials for the activity.

Observational records were kept by project staff on the actual procedures used in the classroom to present the activities (Appendix C, Nutrition Activity Evaluation protocol).

Supplementary nutrition information was presented to the staff through Food·Nutrition Hot·Lines. (See For Parents and Teachers, Module V, for samples.)

All programs were observed following completion of the treatment phase. Comparison of pre- and post observations of snacks revealed that some changes did take place in snack selection. Some schools were

relatively nutrition conscious at the outset of the program, and consequently showed little change in snack selection. Teachers of other schools reported the desire to select more nutritious snacks, but were limited because of budgetary problems or lack of administrative support. A summary of pre- and post snack observations is presented in Table 10 (Snacks Served at Field Sites Pre- Post Intervention).

As a courtesy, control group teachers were invited to attend a workshop at the end of the experiment for the purpose of being trained in the use of project-developed activities (page 65). This provided the means for control groups to also benefit from project nutrition education activities.

Workshops for Headstart Personnel

Nutrition education workshops were held for the Los Angeles County Superintendent of Schools' Headstart Grantee staff as follows:

DATE	PLACE
April 30, 1980	CSUN Oviatt Library
May 8, 1980	LA County Probation Department 3606 Exposition Blvd., Los Angeles
May 21, 1980	Centro Maravilla Neighborhood Facility 4716 Brooklyn Avenue, Los Angeles

The format used for each program is outlined in Figure 4. Thirty to 50 meal service personnel and teaching staff members attended each session.

California Association for the Education of Young Children Conference (CAEYC) March 1, 1980

Drs. Gorelick and Clark involved approximately 100 conferees at the CAEYC state conference in a one-hour workshop to acquaint them with project goals and disseminate early findings and new materials. The program

Table 10

Snacks Served at Field Sites Pre- Post Intervention

SCHOOL	PRETEST SNACK 1	PRETEST SNACK 2	PRETEST SNACK 3	PRETEST SNACK 4	POSTTEST SNACK
* Temple Ahavat Shalom	graham crackers, peanut butter and apple juice	grape juice and raisins	graham crackers and apple juice	scrambled eggs and apple juice	apples and orange slices, whole wheat crakcers, and water
* Northridge Preschool	2 saltine crackers orange drink	Kool Aide and apple slices			wheat crackers and apple juice
* First Presbyterian, Granada Hills Preschool	pear slices and 2% milk	wheat crackers and whole milk			egg salad sandwiches and lemonade
Kids Unlimited - Tarzana	popcorn and juice	yellow cake	2 animal cookies, wafer cone, "natural" vanilla ice cream		goldfish crackers, raisins, and pretzels
Weekday Nursery School	celery and peanut butter, oatmeal, raisins, etc. (granola) almonds, oil and condensed milk and fruit punch	bananas and graham crackers and fruit punch	Hi C punch and gingerbread cookies		granola bars and apple juice
* Congregational Church of Chatsworth Preschool	not available	not available			"grop": peanuts, raisins, etc. orange juice

Table 10 (continued)

SCHOOL	PRETEST SNACK 1	PRETEST SNACK 2	PRETEST SNACK 3	PRETEST SNACK 4	POSTTEST SNACK
* Hesperia School	graham crackers and lemonade	lemonade and marea biscuits (ethnic)			animal cookies and fruit juice
* Kirk O'the Valley Preschool	popcorn (cheesy) and nonfat milk	saltine crackers nonfat milk			carrot and raisin salad
* Discovery School	2 pieces banana, pear and orange juice	fruit salad--applies, pears, oranges, cantaloupe, bananas	orange juice, celery and peanut butter, and crackers	cheddar cheese, pretzels, 1/8 orange, 2% milk	matzo, marg., and jelly, charoses: apples, walnuts, cinnamon
* Central Lutheran Preschool	birthday cake (not typical), nonfat dry milk mixed with whole				saltine crackers and 2% milk
Farm Schools	saltine crackers, orange drink	graham crackers, whole milk	graham crackers and pretzels and 2% milk		carrots, raisin salad and juice
Pixie-land Preschool	saltines and peanut butter and grape juice	lemon and lime-ade and Kool Aide and animal cookies	apple juice American cheese and crackers		crackers and juice

Table 10 (continued)

SCHOOL	PRETEST SNACK 1	PRETEST SNACK 2	PRETEST SNACK 3	PRETEST SNACK 4	POSTTEST SNACK
Wishing Well	not available	not available			"banana boats"--banana, peanut butter, raisins
* Sherman Oaks Lutheran	crackers, cheese and orange drink	peanut butter cookies and orange drink	Iris Fruity Delight, soda crackers and cheese		apple wedges, cheese strips, water

COMMENTS GIVEN BY SCHOOL DIRECTORS AT TIME OF FOLLOW-UP (4/10/81):

Temple Ahavat Shalom	They have always been aware of nutrition needs and served wholesome snacks. The program reinforced these ideas and the teachers will be even more conscious of nutritious snacks.
Northridge Preschool	Changes have been toward more natural foods such as juices, more water, using whole wheat crackers.
First Presbyterian Church	Not much change since teachers were already aware of nutritional needs and provided nutritious snacks.
Kids Unlimited - Tarzana	Changes basically toward more use of mixed items with raisins, more peanut butter. They have some budget restrictions. They used Bisquick and made their own pizzas. They have eliminated cakes. Kids enjoy snacks more.
Weekday Nursery School	Parents bring in snacks and there has been no change.
Congregational Church of Chatsworth	Changes have been toward combinations; carrots, crackers and water; fruit, crackers and water. Already encouraged good snacks.
*Hesperia School	Changes have been towards trying new foods, such as avocado. They do have severe budget restrictions.
*Kirk O'the Valley Preschool	Not any change since they were already aware of nutritious snacks. There has been a great change in lunches brought from home: no chips, no white bread.

Table 10 (continued)

*Discovery School	No change in format since they already had nutritious snacks; raw vegetables, fresh fruit, cheese.
*Central Lutheran Preschool	There has been no change in format of snacks served.
Farm Schools	There has been no change in snacks since the owner will not increase budget. Teachers do not want to spend extra money nor spend their own time shopping. School does sponsor cooking program and prepares nutritious foods, such as fruit salad.
Pixieland Preschool	There has been no change. They are supposed to change program in July.
Wishing Well	The change in format has been toward more natural foods, making up combination fresh snacks and giving them names.
*Sherman Oaks Lutheran	They were always aware of good snacks but are even more conscious of foods that augment each other.

* Experimental Schools

"Establishing Nutritious Food Habits in Early Childhood"

CONDUCTING IN-SERVICE TRAINING WORKSHOPS

First Step:
- Getting to know your group
  - What are their names?
  - Where are they from?
  - How are they involved in nutrition education?
  - Who is their target audience (e.g., children, parents, staff?

Second Step:
- Where to begin - Needs Assessment
  - Establishing a baseline of nutritional knowledge and needs.
  - Instruments and Materials

Third Step:
- What's new - Updating Nutrition Information
  - National Dietary Guidelines
  - Index of Nutrient Quality
  - Consumption Index

Fourth Step:
- Motivating the group
  - How to make child's play of nutrition education
    - Warm up activities

Fifth Step:
- Involving the group - Hands-On Presentation
  - Cognitive activities
  - Creative - expressive activities
  - Food preparation activities

Sixth Step:
- Wrapping it up - Sharing, Exchanging Ideas

Seventh Step:
- Evaluation

Figure 4

Format for Headstart Workshops

included identification of project goals, an introduction to the assessment instruments developed, explanation of the Index of Nutritional Quality and the Dietary Guidelines for Americans, demonstration of nutrition education activities for preschool children and a sharing of ideas between project members and conferees of alternatives to low nutrient density foods for preschool birthday celebrations.

California Home Economics Association - Los Angeles District Workshop February 7, 1981

This workshop was offered as a post-session to a regularly scheduled meeting of the Home Economics Association. Guests of the Association include members of the CSUN Student Dietetic Association and staff of preschools assigned to the two control groups of the project field-study research.

The agenda included exercises to heighten the awareness of participants of attitudes/feelings of children when introduced to a new food, a slide show showing the administration of the NSUN-PL, a 16mm project produced film, "Nutrition: Try It, You'll Like It," explanation of the Index of Nutritional Quality and the Dietary Guidelines for Americans and "hands-on" experience in preparing snack foods and using classroom games and activities.

The program was presented by Dr. Gorelick (co-director) assisted by CSUN Preschool Laboratory Supervising teachers: Sandy Rifkin and Geraldine Luethy. The two-hour workshop was attended by approximately 60 people.

Southern California Association for the Education of Young Children March 1, 1981

A game designed to illustrate the Index of Nutritional Quality was played as an initial activity of this meeting. Attendees saw project

produced 16mm film "Nutrition: Try It, You'll Like It" and children's filmstrip, "I'm Hungry." Project materials, including the Food-Nutrition Hot Lines were displayed. Dr. Clark (co-director), Ms. Leeb (nutritionist) and Ms. Rifkin (Preschool Laboratory supervising teacher) presented the program.

American Home Economics Association Annual Meeting, Atlantic City, June 25, 1981

The research results summarized in this component were reported in the Food and Nutrition Section by Dr. Clark (co-director). Dr. Gorelick (co-director) chaired the section, attended by 100 people.

San Fernando Valley Child Care Consortium, June 1980

The format developed for Headstart Workshops was used including the games and "hands-on" experience. Dr. Gorelick (co-director) and Gerry Leuthy (Preschool Laboratory supervising teacher) conducted the session attended by 150 people.

COMPONENT III

INTRODUCTION AND GOALS

The major objective of this component was to design multi-media cognitive, affective and action-oriented nutrition education materials for young children, parents and child-care providers.

A comprehensive package of nutrition education materials was developed for use by young children, staff and parents in group and home settings (Figure 5). The program called "Good Nutrition: Try It, You'll Like It" includes the following modules:

I. Assessment and Evaluation

II. Classroom Activities

III. Recipes for Early Childhood

IV. Audiovisual Materials

V. For Parents and Teachers

VI. Patterns for Classroom Activities

A Teacher's Guide describes the content of each module. In addition to the comprehensive kit, coordinated materials were produced. These include:

Northridge Survey of Understanding Nutrition - Preschool Level Instructional Slide Show. 35mm color slides and an accompanying script which details the methodology to be followed in administering the NSUN-PL.

"Food for Thought" Lectures. Conference speeches by distinguished nutritionists and food scientists were videotaped and recorded on audio-cassettes. Lectures and topics are:

MATERIALS	TARGET POPULATION			
	Children	Parents	Staff	Community
Module I				
Assessment/Evaluation				
NSUN-PL	X			
NSUN-AL		X	X	X
Module II				
Classroom Activities	X		X	
Module III				
Recipe Book	X	X	X	X
Module IV				
Audio-visuals: filmstrips				
"I'm Hungry"	X			
"Wolfie Gets Hungry"	X			
Module V				
For Parents and Teachers		X	X	X
Module VI				
Patterns	X		X	
Coordinated Materials				
16mm film, "Good Nutrition: Try It, You'll Like It"	X	X	X	X
"The Index of Nutritional Quality"		X	X	X
Consumption Index Procedures			X	
"Dietary Guidelines" Slides Presentation		X	X	X
"Food for Thought" lectures		X	X	X
NSUN-PL Slide Show			X	

Figure 5

Project Developed Materials

Newmann, Charlotte, M.D., "Nutrition for Young Children"

Chen, Tung Shan, "Hyperkinesis"

Stasch, Ann, "Nutrition Myths"

"Dietary Guidelines for Americans" Slide Presentation. 35mm slides of poster graphics are suitable for projection in conference sessions, classrooms, and discussion groups. The slides graphically depict each of the seven dietary guidelines recommended by the United States Department of Agriculture and the United States Department of Health and Human Services.

Consumption Index Protocol and Procedure. Forms and a description of the method to use in assessing the food intake of a group of children at the time of consumption were developed (Appendix A).

"The Index of Nutritional Quality: A Method for Identifying the Nourishing Aspects of Foods". A way of evaluating nutrient content of food in relation to calories is described in a 17-minute videotape utilizing illustrated grocery store and preschool settings. Practice is given in identifying high quality foods. The importance of developing good eating habits at an early age is emphasized, and suggestions are given to accomplish this goal.

"Nutrition: Try It, You'll Like It" (16 mm color film, 10 minutes). The carefully selected diet of well-fed, handsome zoo animals is compared with the less nutritious food practices of zoo visitors. The "Dietary Guidelines for Americans," published by the United States Department of Agriculture and the United States Department of Health and Human Services, 1980,

are presented along with additional nutrition information in an interesting format suited for general viewing. This film may be used to introduce food and nutrition discussions or programs.

The following six stages divided into Formative and Summative periods, were used in the process of developing the sets of materials included in the "Good Nutrition: Try It, You'll Like It" program:

Formative Period

Stage I: Developmental Landmarks. This period focused on identifying the range of cognitive, affective and action capabilities of the target population. Guidelines were drawn from a wide range of child development experts and other theorists ranging from Piaget and Gesell to Skinner and Kagan.

Stage II: Principles of Learning. An examination was conducted of principles of learning which could be incorporated into the design of the materials to increase the probability of bringing about positive changes in the foods and nutrition behaviors of the target population. The principles of learning as they apply to the development of educational materials were drawn from the works of Tyler (1950), Mager (1962) and Gorelick (1962). See Appendix D for outline of "Questions and Guidelines in Curriculum Design."

Stage III: Selection of Strategies. Prototype materials were selected and/or created for each of the components of the project: Student Instruction; In-Service Training Materials; and Parents and Community. All materials were screened by the project staff and consultants for their accuracy, appropriateness for the target populations

and their relevance to the project's goals. Artistic appraisal of materials was sought from the Campus Audiovisual Department and Project Advisory Board members.

Stage IV: Trial Testing and Revision. Materials were assessed for effectiveness and necessary revisions were made. A summary of teachers' ratings, observation techniques and controlled experiments used in the evaluation process are found in the appropriate components of this report.

Summative Period

Stage V: Field Testing and Analysis. All materials were tested in proprietary and nonprofit preschools. Teachers rated the materials on seven dimensions.

Stage VI: Dissemination. The majority of nutrition education materials were published and packaged as a comprehensive unit titled "Good Nutrition: Try It, You'll Like It" program. The 16mm movie "Nutrition: Try It, You'll Like It" is being distributed by Aims Instructional Media Service. The remainder of the materials are available from the CSUN Preschool Laboratory.

Development and evaluation of the Materials Component was specific to each particular module or product, and will be outlined below.

ASSESSMENT AND EVALUATION: MODULE I

NORTHRIDGE SURVEY OF UNDERSTANDING NUTRITION - PRESCHOOL LEVEL (NSUN-PL)

Background and Goals

The Northridge Survey of Understanding Nutrition - Preschool Level (NSUN-PL) (Appendix O) was constructed to sample the knowledge of preschool children (ages three to five) in relation to specified proficiencies. The proficiencies assessed are identifying, classifying, and matching foods; demonstrating knowledge of food preparation procedures and good hygienic practices (handwashing and tooth brushing) and selecting foods with a high nutrient quality.

The NSUN-PL was designed with two goals in mind:

1) to provide a valid tool with which to assess individual entry and exit proficiencies of preschool children in relation to foods and nutrition knowledge;
2) to generate data which can be used to plan nutrition education programs for the individual and/or group of preschool children.

The assessment was developed and trial tested by children from the California State University, Northridge Preschool Laboratory. It was field-tested by children from twenty classrooms in private proprietary or nonprofit preschools.

Description

The NSUN-PL consists of a series of game-like tasks in which a child is asked to manipulate and respond to various foods or realistic plastic replicas of foods. Each of the seven parts focuses on a single

proficiency. The test is administered on an individual basis, and can be completed in approximately fifteen minutes. Answers may be numerically scored. Non-verbal alternate presentations are provided for children with delayed language development.

Reliability

Overview

Magnesson (1967) recommended that the precision and stability of true scores of a heterogeneous test (where the internal consistency of questions is not established or critical) is best estimated through the test-retest method. This method was used in determining the reliability of the NSUN-PL, producing an overall reliability of .75 ($p < .001$).

Subjects

Forty-seven children from five private and/or nonprofit preschool classrooms were assessed in the reliability study. The children ranged in age from three and one-half years to six years. The classrooms were randomly chosen from twenty classrooms that had been selected to participate in a field-study and assigned to Group 2 (pretest - no intervention - posttest). Children were primarily Caucasian and from the middle or upper middle socio-economic levels.

Methodology

The children were pretested in October, 1980, and posttested in January, 1981, with an intervening period ranging from twelve to fifteen weeks. Both assessments were administered individually by examiners who had been trained to use standardized procedures, thus reducing errors of administration to a minimum. The examiner training consisted of looking at a slide show of the procedures for administration, seeing demonstrations,

role-playing, practice, and comparison of scores with other examiners for consistency. A total of 15 examiners were utilized to collect the data. These examiners were upper division university students and/or mothers of children in the CSUN Preschool Laboratory.

Results of the two assessments were analyzed using the Pearson Product Moment Statistic.

Preliminary Data on Age Norms

The performance of 194 children who had not experienced a formal nutrition program on the NSUN-PL is reported below. These children were from the 14 private preschools in the San Fernando Valley that participated in the off-campus field study of the project. The scores were achieved on the first administration of the test. The overall mean score of the children was 42.85 with a standard deviation of 5.9.

Table 11

Preliminary Age Norms of Preschool Children on the NSUN-PL

AGE	N	MEAN SCORES
2 Yrs. 9 Mon. to 3 Yrs. 5 Mon.	7	29.14
3 Yrs. 5 Mon. to 3 Yrs. 11 Mon.	19	34.89
3 Yrs. 11 Mon. to 4 Yrs. 5 Mon.	59	41.32
4 Yrs. 5 Mon. to 4 Yrs. 11 Mon.	77	45.14
4 Yrs. 11 Mon. to 5 Yrs. 5 Mon.	32	53.94

N = 194
SE = 0.4245
SE = Standard Error

NORTHRIDGE SURVEY OF UNDERSTANDING NUTRITION - ADULT LEVEL (NSUN-AL)

Background and Goals

A search of several decades of the literature on nutrition failed to reveal any test, questionnaire or survey form which was consistently used or generally recognized by professionals in the field as a valid instrument for assessing nutrition knowledge and/or attitudes of adults. The project staff, therefore, undertook to develop an instrument which could be used as a pre- and posttest of understanding and application of the Dietary Guidelines for Americans and other food and nutrition concepts. Other goals were to assess nutrition education needs as perceived by the subject, and at the same time to be educational in and of itself. In addition, a format was sought that would maintain the interest of the respondent.

Procedure and Results

Several approaches were attempted to produce the desired instrument. These included the construction of an open-ended interview, a true/false test and a pictorial assessment. In November, 1979, a working format was agreed upon by the project staff which seemed to meet the criteria outlined. This format was reviewed and criticized by two project consultants (a Professor of Nutrition and a Professor of Home Economics Research and Statistics). Suggested improvements were incorporated into the working version of the assessment.

The survey was then administered to seventy students enrolled in Child Development and Nutrition classes. The students gave their subjective evaluations of the test in terms of information gained;

interest of items; clarity of questions and directions; amount of time spent and any other areas they wished to address. Comments were generally favorable on these subjects. Responses to test questions revealed that students selected the correct answers to Item 1-10 the majority of the time (see Table 12).

Table 12

CSUN Student Responses to NSUN-AL Questions 1-10

Percent of Respondents Identifying Each Choice

	CHOICES[1]					
QUESTION	A	B	C	D	E	Significance of difference in choice of response
1	77%*	8%	6%	8%	NA	p .001
2	69%*	22%	6%	3%	NA	p .001
3	2%	95%*	0	3%	NA	p .001
4	1%	0	99%*	0	NA	p .001
5	4%	84%*	6%	6%	NA	p .001
6	3%	49%*	10%	31%	6%	p .001
7	27%	14%	24%*	11%	10%	NS
8	6%	1%	77%*	4%	10%	p .001
9	10%	13%	3%	58%*	14%	p .001
10	3%	7%	62%	15%	8%	p .001

N = 70

[1]Correct answer indicated by asterisk.
NA = Not available as a choice.

The remainder of the twenty-one items comprised a multi-choice needs assessment. Answers to these items were difficult to tally and

interpret. The test required up to forty minutes to complete.

The assessment was reviewed by a United States Department of Agriculture consultant. Recommendations for simplification, clarity, and reduction of test time gleaned from the above source were incorporated in a final revision of the instrument. A section of true/false questions regarding nutrition myths was added. The resulting version was trial tested by CSUN Preschool Laboratory parents in pre- and posttest nutrition education workshops in Spring, 1981. Results showed that the instrument was sensitive to changes in nutrition understanding and effective in identifying nutrition education needs, (Appendix O).

Administration, scoring and application information about both NSUN-PL and NSUN-AL may be found in Module 1 of "Good Nutrition: Try It, You'll Like It" program, along with sample protocols.

CLASSROOM ACTIVITIES: MODULE II

BACKGROUND AND GOALS

The classroom activities section consists of fifty (50) prototype lessons to encourage positive food and nutrition behaviors in young children. Criteria followed in selecting the classroom materials included in the program were that they be:

Self contained - need not be presented in a special sequence.

Age appropriate - at the child's level of development.

High interest - holds attention of young children.

Attractive - well designed.

Open ended - permit children of varying levels of ability to participate in the activity.

Concrete in representation - uses as many real objects as possible to teach new concepts and knowledge.

Action oriented - child given the opportunity to participate in the activity.

Varied - provides a range of experiences utilizing different sense modalities.

Replicable - can be readily duplicated or produced by the teacher.

Economical - cost minimal or utilizes scrap materials.

Effective - produces positive behavior changes.

DESCRIPTION OF ACTIVITIES

The classroom activities represent learning opportunities in food and nutrition ranging from stories to food preparation tasks that can be

easily integrated into different early childhood education programs and daily schedules. Each activity card provides the teacher with all the information needed to plan, construct and implement the lesson in the classroom. Necessary patterns are provided to enable teachers to replicate the activities with minimum effort. The teacher is also encouraged to expand or vary the protocol lesson based on the individual needs of the children in the group.

The activities are classified into areas commonly found in preschool programs so that the teacher can readily identify the content and fit it into the class program schedule. The categorization of the Classroom Activities used in Module II of the "Good Nutrition: Try It, You'll Like It" program are shown in Figure 6.

PROCEDURE AND RESULTS

The development of the activities module is fully described in the Student Instruction Component. The upward change in performance between pretest and posttest of the NSUN-PL by children who received the experimental treatment was a significant indicator of the success of the activites. In addition to student performance measures, the activities were also assessed by ratings of the supervising teachers of the fourteen classes involved in the experimental groups (Table 13).

The teachers rated the activities on seven dimensions: clarity of instructions, ease of administration, age-appropriateness, interest to children, educational content, teachers' wish to repeat the activity, and ability to adjust to the field-site program.

Thirteen of the fourteen teachers involved in the experimental group responded to the project request for ratings. One of the responses

Teaching About Foods and Nutrition
"Sometime" and "Anytime" Foods
How Concepts Are Represented
Activity Card Components

GROWING AND PREPARING FOOD

PLANTING AND HARVESTING:

1. Harvesting Root Vegetables
2. Planting an Avocado Seed
3. Planting Green Beans
4. Planting Peanuts
5. Sprouting Mung Beans

PREPARING/COOKING:

6. Making Butter
7. Preparation of Curds and Whey
8. Preparation of Stone Soup
9. Shelling and Cooking Peas
10. Tasting Parties

DEVELOPING COGNITIVE SKILLS

IDENTIFYING:

11. Food Look-Alikes [E]
12. Good Nutrition Computer
13. I'm Hungry Puppets (P #1)
14. Magic Glasses
15. Rice and Grain Lotto

CLASSIFYING:

16. Fishing for "Anytime" Foods [E] (P #2)
17. Fruit and Vegetable Sort
18. Happy Face Game (P #3)
19. Macaroni Sort
20. Mr. Fruit, Vegetable or Mix-up Man
21. Nutrition Bean Bag Toss (P #4)

DEVELOPING COGNITIVE SKILLS (Continued)

MATCHING:

22. Food Science
23. Food Spinner Game
24. Matching-the-Food Machine

RECALLING:

25. Hide the Peanut
26. Memory Game [E]

ENCOURAGING CREATIVE EXPRESSION

SONGS:

27. "A Rice Song" [E] (P #5)
28. "Found a Peanut" (P #6)
29. "We Want Apples" (P #7)

ART:

30. Collage
31. Kidney Bean Toothpick Sculpture

DRAMATIC PLAY:

32. Farmer McGregor Game (P #8)
33. Indian Make-up [E]
34. Table Setting: American and Oriental Style [E] (P #9)

STORIES:

35. "A Nigerian Village" Story [E] (P #10)
36. "Hiawatha" [E] (P #11)
37. "Little Miss Muffet" (P #12)
38. "Magic Stone Soup" (P #13)
39. "The Birds" (P #14)
40. "The Magic of Rice" Finger Play

Figure 6

Classroom Activities by Category

ENCOURAGING CREATIVE EXPRESSION (Continued)

AUDIO-VISUAL:

41. "I'm Hungry" filmstrip
42. "Wolfie Gets Hungry" filmstrip [E]

LEARNING ABOUT SCIENCE AND HEALTH

43. Body Image
44. Hand Washing Song
45. Oxidation
46. Tooth Puppet (P #15)

OBSERVING HOLIDAYS

47. Humpty Dumpty
48. Three Little Pumpkins (P #16)
49. "We Eat Turkey" Song
50. Witches Bowling (P #17)

Figure 6 (Continued)

could not be tallied because the ratings did not follow the requested format. The remaining ratings were tallied as to number of yes, uncertain and no responses. A yes response was given a value of one; an uncertain rating was given half credit; a no rating, zero. The ratings were summed and divided by the number of respondents to each question. All scores concerning a single activity were totaled and averaged to produce a mean for that activity. These ranged from .70 to .97 or 70 to 97 percent approval. The grand means for all activities was .91 or 91 percent approval. Means were also established for each dimension being considered. These ranged from .78 to .94 or 78 to 94 percent approval.

Teacher comments were also solicited along with the activity ratings. These comments were very positive on an overall basis. The major negative comment was that three nutrition activities were in some cases too many to be included in a half-day program. The teachers who made this comment indicated that they could use the activities on a less concentrated basis. Respondents indicated that some snacks (i.e., fruit salad) were too substantial, and "spoiled the children's lunch" and that some foods were not enjoyed (i.e., Swiss cheese with pita bread and Stone Soup). Snacks were adjusted to smaller servings and recipes were changed accordingly. The "Good Health" activity was completely abandoned on the basis of the ratings and comments. Several other activities were revised to eliminate objectionable aspects before inclusion in the final program.

Table 13

Mean Ratings of Children's Classroom Activities by Field-Site Teachers

Evaluation of Food and Nutrition Classroom Activities

	ACTIVITY SET 1			ACTIVITY SET 2			ACTIVITY SET 3			ACTIVITY SET 4			ACTIVITY SET 5		
	Food Science	The Good Nutrition Computer	Fruit Tasting	Food Look-Alike	Memory Game: Bread	Bread Tasting	Happy-Sad Face Game	Planting Vegetables	Vegetable Tasting	Magic Glasses	Preparing Fruit Salad	Fruit Salad Snack	Slide Show "I'm Hungry"	Paper Bag Puppet	Pita Bread Sandwich Snack
1. Was the activity clearly written?	1.0	1.0	1.0	1.0	1.0	.9	1.0	.8	1.0	1.0	1.0	1.0	1.0	.9	1.0
2. Was the activity easy to follow?	1.0	.9	1.0	1.0	1.0	1.0	1.0	.8	.9	1.0	.9	1.0	1.0	.9	1.0
3. Was the activity age appropriate?	1.0	.8	1.0	.9	1.0	1.0	.9	.9	1.0	1.0	.8	1.0	1.0	.9	1.0
4. Was the activity interesting to children?	.9	.9	1.0	.7	1.0	.9	.9	.8	.7	1.0	.9	1.0	1.0	.8	1.0
5. Did the activity provide new knowledge, attitudes, and/or skills?	1.0	.8	.8	.7	1.0	1.0	.8	.8	.9	1.0	1.0	1.0	.9	.8	.9
6. Would you use these materials again?	.8	1.0	1.0	.8	1.0	.9	.8	.8	.9	1.0	.8	1.0	1.0	.8	1.0
7. Did this activity fit into your regular program?	.8	.8	.9	.6	.8	.7	.8	.8	.8	.8	.6	.5	.9	.8	.9
COMMENTS: TOTAL	6.5	6.2	6.7	5.7	6.8	6.4	6.2	5.7	6.2	6.8	6.0	6.5	6.8	5.9	6.8
MEAN	.92	.88	.96	.81	.97	.91	.88	.81	.88	.97	.85	.92	.97	.84	.97

Score = $\frac{\text{\# "yes" + 1/2 \# "uncertain" responses}}{\text{Total number of responses}}$

N = 12

California State University, Northridge
USDA-FNS-59-3198-9-70

Table 13 (continued)

	ACTIVITY SET 6			ACTIVITY SET 7			ACTIVITY SET 8			ACTIVITY SET 9			ACTIVITY SET 10		
	Mr. Fruit and Vegetable (Mix-Up) Man	Prepare Salad Bar	Salad Bar Snack	Fruit and Vegetable Sort	Song: "We Want Apples"	Prepare Fruit Kabobs Snack	Fishing for "Anytime" Foods	Food Spinner	Bagel and Cream Cheese Snack	Farmer McGregor Game	Memory Game: Vegetables	Vegetables and Dip Snack	Food Tubes	Preparing Carrot Salad	Carrot Salad Snack
1. Was the activity clearly written?	.8	1.0	1.0	.8	1.0	1.0	1.0	1.0	.9	.7	.8	1.0	.8	1.0	1.0
2. Was the activity easy to follow?	.7	1.0	1.0	.8	.9	.9	1.0	.9	.9	.6	.8	1.0	.8	.9	.8
3. Was the activity age appropriate?	.8	.9	1.0	.8	.9	.8	1.0	1.0	.9	.7	.7	.9	.7	.8	.9
4. Was the activity interesting to children?	.8	.8	1.0	.8	1.0	.9	1.0	1.0	.9	.8	.7	.6	.7	1.0	.8
5. Did the activity provide new knowledge, attitudes, and/or skills?	.8	.8	.8	.7	.8	.9	1.0	1.0	.9	.7	.5	.8	.5	.8	.8
6. Would you use these materials again?	.8	.8	.8	.8	.9	.8	.9	.9	.8	.7	.8	.5	.8	.8	.7
7. Did this activity fit into your regular program?	.8	.8	.8	.8	.9	.9	.9	.9	.8	.7	.7	.7	.7	.8	.8
COMMENTS: TOTAL	5.5	6.1	6.4	5.5	6.4	6.2	6.8	6.7	6.1	4.9	5.0	5.5	5.0	6.1	5.8
MEAN	.78	.87	.91	.78	.91	.88	.97	.96	.87	.70	.71	.78	.71	.87	.82

Table 13 (continued)

	Food Spinner	Good Health Food Flannel Board Story	Pita Bread and Cheese Snack	"Stone Soup" Flannel Board Story	Preparing "Stone Soup"	Stone Soup Snack	Total	Mean
1. Was the activity clearly written?	.9	.7	1.0	.9	1.0	1.0	33.9	.94
2. Was the activity easy to follow?	.8	.6	.9	.9	.9	1.0	32.5	.90
3. Was the activity age appropriate?	.9	.6	.9	.7	1.0	1.0	35.9	.99
4. Was the activity interesting to children?	.9	.8	.9	.9	.9	.8	31.5	.87
5. Did the activity provide new knowledge, attitudes, and/or skills?	.9	.8	.8	1.0	1.0	.8	30.5	.84
6. Would you use these materials again?	.9	.8	.7	.7	.8	.8	30.1	.83
7. Did this activity fit into your regular program?	.7	.9	.7	.7	.9	.8	28.2	.78
COMMENTS: TOTAL	6.0	5.2	5.9	5.8	6.5	6.2	32.91	.91
MEAN	.85	.74	.84	.82	.92	.88		

RECIPE BOOK: MODULE III

BACKGROUND

In observing the snacks provided children in many preschools and child care centers, it was noted that cookies, cupcakes, jello and other high sugar content foods were frequently served. It appeared that many of these early childhood centers, including those with trained staff, were fostering poor food habits rather than encouraging good nutrition. Before the present project was undertaken an attempt to reverse this trend was initiated at the California State University, Northridge Preschool Laboratory. Although this school features a half-day program, it was believed that children could be offered a substantial part of their nutritional needs through the daily snack or "mini-meal" and encouraged to like more nutritious foods.

It was postulated that a group of nutritious recipes for snacks could be simply collected from the plethora of books, magazines and newspapers that purported to offer nourishing foods for young children; that these could be verified as nutritious by dietary analysis, taste tested by the children for acceptability and subsequently used to replace the non-nutritious snacks.

The results of a preliminary study by Clark, Gorelick and Snook (1979) revealed the fallacy in selecting "nutritious" snacks by recipe and labeling inspection alone, the method most readily advailable to preschool directors. Although these snack recipes were selected from published sources purporting them to be nutritious and well-accepted by children, they did not live up to expectations. The Index of Nutritional

Quality (INQ) indicated most of these snacks had fewer than three nutrients in sufficient quantity to balance their calorie content. This finding underscored the need for caution in accepting recipes labeled "nutritious" at face value.

GOALS

The experience in the "Pitfalls" study led the project directors to undertake the task of developing a recipe book that would provide a documented collection of high nutrient density recipes that would be acceptable to young children.

The objectives and guidelines used in the choice of the recipes included:

1) Preparation should be simple and safe enough to afford an enjoyable classroom activity in which the children could participate.
2) Ingredients should provide proportionately as many or more proteins, vitamins, minerals and other nutrients as calories (e.g., avoid empty calories).[1]
3) Preference should be given for relatively unprocessed ingredients.
4) Ingredients should be selected from among those generally included in the diet of the target population in order for the foods to be more immediately acceptable.

---

[1]This is a reasonable assumption for children who normally have an adequate supply of food. It may not be valid in areas where food is at a premium.

5) Preparation should offer special educational values such as the development of psychomotor skills, enhancement of various senses, demonstration of scientific phenomena and socialization experience (e.g., cooperation).

6) Suggestions should be provided to teachers and parents on methods for encouraging the consumption of nutritious foods by young children (e.g., table settings, color arrangements).

7) Ideas for holiday and different ethnic recipes should be identified to broaden children's appreciation of foods from a variety of ethnic groups and to provide nutritious alternatives to the "empty calorie" foods traditionally served during holidays.

DESCRIPTION OF MATERIALS

A spiral bound book Recipes for Early Childhood divided into the following sections was produced (See "Good Nutrition: Try It, You'll Like It" Program; Module III):

Part I - "Upping the Odds"

In this section suggestions and information are provided for preparing and presenting foods in an attractive manner to young children. Ideas are offered for establishing a pleasant atmosphere and dealing with "fussy" eaters. The INQ standards used to assess the nutrient density of the recipes are explained.

Topics addressed in this section include:

What's In a Snack?

Modeling Good Food Habits

Physical Arrangements

Sensory Appeal

Psychological Needs

Dealing with Food "Hang-Ups"

Snacks as Social Occasions

Dietary Guidelines for Americans

Index of Nutritional Quality (INQ)

Ideas for Better Snacks

Recipe Description

Part II - Recipes

Eighty-six recipes analyzed for their Index of Nutritional Quality (INQ) and tested for their acceptability are contained in this section of the recipe book. The foods used in the recipes are readily available in most communities in the United States, although seasonal variations may have to be taken into consideration. Ideas for holiday and ethnic recipes are included. The recipes are divided into the following categories:

Simple Snack Suggestions

Fruits and Vegetables

Dips

Cereals

Breads

Drinks

Miscellaneous

Foreign

Holiday

Figure 7 is a sample of the format and content of a typical recipe.

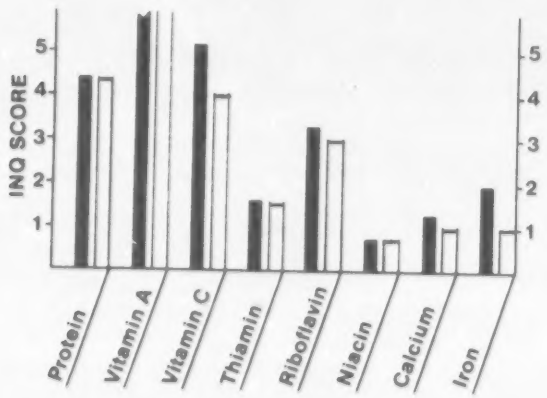
WATERMELON STAR SALAD 1 SERVING

EQUIPMENT:
Measuring cups and spoons
Carving knife
Cutting board
Spoon
Salad plate

INGREDIENTS:
Lettuce leaf
1/2 inch slice watermelon
1/2 cup creamed cottage cheese
1 tbsp. blueberries (optional)

PROCEDURE:
Wash lettuce leaf, pat dry with paper towel and place on salad plate. Cut watermelon into 5 wedges. (Trim away green and white rinds.) Arrange wedges like points of star. Fill center with cottage cheese. Sprinkle with blueberries.

USEFUL IDEAS:
Construct a model for children. Accept other ways in which child may arrange ingredients (expect that the younger the child, the less structured will be the star). Good Fourth of July activity. Eliminate blueberries to lower the cost.



Age:	Total Snack INQ	Calories per Serving:
1-3 yr.	23.25	107
4-6 yr.	26.71	

Figure 7

Sample of Recipe and INQ Chart

PROCEDURE AND RESULTS

The search for recipes that would conform to the project guidelines was undertaken by the project nutritionist and other project staff including Supervising Teachers of the California State University, Northridge Preschool Laboratory. Recipes were sought from many sources ranging from USDA Food and Nutrition publications and newspaper food sections which listed USDA and RDA allowances to the many commercially published recipe books. A group of approximately 175 recipes were chosen for analysis.

Nutritional Quality Analysis

Each of the recipes was analyzed by using an adaptation of the Index of Nutritional Quality (see page 4). As a result of the INQ analysis a pool of eighty-six high INQ foods and recipes were identified.

Testing of Recipes

During the two years that the project was funded (1979-1981), the following process was used in testing high INQ foods and recipes:

1) The recipes were assessed by the California State University, Northridge Preschool Laboratory supervising teachers and project staff for their ease in preparation and adherence to other project objectives and guidelines.
2) On- and off-campus pre- and post consumption index testing was conducted. (See Student Instruction/Research Component for details of the research design and results.)
3) The preschool staff visually assessed the children's acceptability of all recipes. (See Appendix C for the classroom snack observation form.)

Results

The evaluations of the high INQ foods and recipes were reviewed by the nutritionist, teachers and other project staff. Some recipes were discarded completely while others were revised. A total of eight-one tested recipes meeting the project objectives were chosen for inclusion in Module III: Recipes for Early Childhood.

AUDIO/VISUAL: MODULE IV

BACKGROUND

The impact of mass media on children's attitudes, preferences and knowledge has been documented in the literature. According to Campbell (1981), "many American children start watching television on a regular basis by the age of three. It is estimated that an 'average' American child will watch approximately 20,000 commercials per year." Meringoff (1980) reviewed the literature on the effects of food advertising and concluded "that children accept or believe many of the claims made about foods advertised in commercials." Television is present in 95 percent of all U.S. households. The large budgets assigned by corporations to T.V. advertising bears witness to the fact that the use of mass media, in particular television and films, is an effective method for communicating the desired message. According to studies conducted by the Federal Trade Commission (1978) and Helitzer and Heyel (1974), content analysis of commercial advertising directed toward children included some of these characteristics:

a. Magical promises that a product will build muscles or improve athletic performance.
b. The chase or tug-of-war sequence in which one character tries to take a product away from another.
c. The use of music, singing, and dancing.
d. The use of super heroes to entice the children.
e. The voice of authority.
f. The voices of children agreeing with the announcer.
g. Depiction of children outperforming adults.

h. Animation.

i. Peer group acceptance appeals.

j. Selling by characters who also appear in programming.

Palmer (1969, p. 3) and his associates found in studying pilot films for Sesame Street that preschoolers "prefer highly active, highly visual materials, full of novelty and variety." Simple animated cartoons hold their attention more than live sequences. Their favorite subjects are animals, then children. Of least interest are adults. The children want to be spoken to directly.

Because of the tremendous appeal of mass media forms of communication, a set of audio-visual materials was created and produced by the project staff and consultants to reinforce and disseminate the food and nutrition education goals of the project.

In designing audio-visual materials for the project, consideration was given to the criteria suggested by Palmer and others as appealing to children and to the outcomes listed below:

1. Education - the materials should provide new knowledge or reinforce previously learned foods and nutrition concepts appropriate to the project's goals and the target audience. (It should be noted that the project staff in consultation with the USDA/FNS consultants decided that a major objective of the A/V materials would be to communicate information about the Seven Dietary Guidelines for Americans and the Index of Nutritional Quality.)

2. Motivation - the production should encourage the viewer to adopt the positive food and nutrition behaviors depicted in the materials.
3. Enjoyment - the viewer should have an interesting and enjoyable experience.
4. Professionalism - the photography, writing, art, and narrative should be of excellent professional quality.

DESCRIPTION OF MATERIALS PRODUCED BY PROJECT

The audio-visual materials produced complemented different modules in the "Good Nutrition: Try It, You'll Like It" program. (See Figure 5 page 55 of this section.)

PROCEDURE AND RESULTS

The procedure used in developing the audio-visual items described above involved the following steps:

1. Setting Objectives and Format - an outline was made of the ideas to be conveyed, the audience to be reached, the format to be used, the length of the production and the amount of money to be budgeted.
2. Seeking producers - interviews were held with potential producers whose quality of work could be verified and who were interested enough in the purposes of the project to accept the limited funds allocated for the productions.
3. Formalizing agreements - agreements were drawn spelling out the details of the production and approved by the project fiscal officers and the producer.

4. Writing the script - a preliminary draft and subsequent drafts of the proposed script for the production were reviewed and edited by the project directors and nutrition consultants until a final form was agreed upon.
5. Production of the script - initial footage was reviewed and revised by the project directors and nutrition consultants before acceptance of final completed copy.
6. Evaluating - the production was tested on the target audiences for their reactions and evaluative comments. Reactions were overwhelmingly favorable to all of the different materials.

Samples of adult evaluations solicited by the Regional Nutrition Coordinator, Westinghouse Health Systems/IMPD National Migrant Head Start Workshop (San Diego, March 3-5, 1981) to the film "Nutrition: Try It, You'll Like It" are found in Appendix K. Another indication of the acceptance of the materials is requests for repeat showings. These requests have come from schools that previewed these productions during the off-campus field study. Advisory Board members have also introduced the film to classes at Mission College and other similar audiences.

Summary and Discussion of Results

The overall positive reactions to the project developed audio-visual productions from the different target audiences indicated that the audio-visual materials have met the project objectives and should make a worthwhile contribution to the growing collection of instructional media in the field of foods and nutrition for young children, their parents, teachers, and the community at large.

Suggestions for a Spanish translation of the productions should be seriously considered when funds are available.

FOR PARENTS AND TEACHERS: MODULE V

BACKGROUND

A "Consumer Nutrition Knowledge Survey" using a nationwide probability sample, conducted by the FDA (1975), engaged shoppers in face to face interviews. The results showed that a majority of the food shoppers were classified as "not well informed" about foods and nutrition. Yet to be delineated by further research is whether good dietary practices are the result of one or a combination of the following: educational level of parents; family habits; individual preferences; ethnic and cultural styles; socio-economic status; television and other media advertising. An examination of existing methods of communicating foods and nutrition knowledge to the family and community did not reveal a single method that would effectively ensure that this knowledge would be either acquired or applied. Thus, the project staff decided on a multi-dimensional communication approach to developing materials to improve the foods and nutrition consciousness and practices of the target population. This included use of surveys, meetings, workshops, printed bulletins, audio/visual aids, exhibits and press releases.

It was further postulated that adults (parents, teachers and food service personnel) responsible for the planning and preparation of food and for the nutrition education of young children, should be exposed to the same food and nutrition materials. This was based on the rationale that the dissemination of the same materials to parents, teachers, food service personnel and community would increase the likelihood of communicating the same information to the children and thereby reduce the possibility of delivering conflicting messages by significant adults.

In developing the prototype materials to reach families and the community, the following objectives focusing on the Dietary Guidelines for Americans and the Index of Nutritional Quality were fulfilled:

1) Designed an instrument to assess the foods and nutrition education needs of parents and other significant adults.
2) Produced and identified materials influencing young children's food and nutrition behaviors.
3) Constructed food and nutrition games and activities that encourage parent/child interaction.
4) Developed audio/visual materials to raise adult awareness about the Dietary Guidelines for Americans and the Index of Nutritional Quality.
5) Distributed materials which stressed the importance of the application of foods and nutrition knowledge to dietary practices.
6) Demonstrated different methods for disseminating foods and nutrition material to families and community.
7) Obtained evaluative feedback from parents and community about the materials.

DESCRIPTION OF MATERIALS

"For Parents and Teachers: Module V" is a special unit of the Good Nutrition: Try It, You'll Like It program which contains a variety of project developed materials to use in communicating about foods and nutrition to the target populations. It includes an instrument for

assessing the nutrition competencies and needs of adults, informative food and nutrition bulletins and handouts, parent/child involvement activities, answers to questions parents may have about their child's eating habits, and aids for organizing special programs around a food and nutrition theme. For dissemination purposes, sample prototype materials are provided in easily duplicated form to save design and development time. Module V is divided into the following sections:

Overview of Parent Education Materials

This section stresses the importance of a team effort between parents and teachers in improving families' dietary knowledge and practices. It also provides a set of basic quidelines to follow in designing nutrition education materials which will be effective and attractive.

A Starting Point: NSUN-AL

Describes the uses of a project developed instrument to assess the nutrition knowledge and needs of adults. The importance of obtaining this information to develop a program appropriate to the particular group to be reached is stressed. The Northridge Survey of Understanding Nutrition - Adult Level (NSUN-AL) offers the opportunity to measure nutrition education effectiveness. Its administration is simple and directions are clearly stated on the protocol.

Foods and Nutrition Bulletins: Hot·Lines

A series of eight single concept bulletins were developed featuring the Seven Dietary Guidlines for Americans plus a bulletin devoted to the importance of water in the diet. The Food·Nutrition Hot·Lines were

directed to parents and included an at home cooperative parent/child activity connected to the concept being presented. The Hot·Lines are also appropriate for distribution to school personnel and the community.

Answering Parents' Questions: "Dear RDA" (Recommended Dietary Allowances)

Using a popular format, a group of typical nutrition behavior problems of children are posed in letter form and answered by "RDA." Suggestions are offered on the different ways this material can be incorporated in a nutrition education program.

Parent Meetings

Ideas are provided on a variety of methods for organizing meetings and the themes or topics to use. Included are sample materials for workshop series announcements, meeting notice flyers, nutrition information handouts, a conference program, the text of a lecture: "The Good Food Diet," a "Kitchen Fare" form, holiday handouts and promotional items.

PROCEDURE AND RESULTS

The six Formative and Summative stages outlined in the introductory section of this component were followed in the development of materials For Parents and Teachers: Module V.

In addition, a set of guidelines "Ten Ingredients for Communicating a Message" was developed for use in the design and selection of the materials:

1) Content is tailored to group being addressed.
2) Format is attractive.
3) Print is easily read.
4) Interesting materials are presented.

5) New knowledge or ideas are conveyed.

6) Materials may be read quickly.

7) Cooperative involvement of family members is encouraged.

8) Material motivates the reader to seek additional information.

9) Production requires minimum preparation.

10) The cost meets the budgetary capabilities of the school.

The NSUN-AL was trial tested with on-campus university students being used as subjects. Attendees at a professional meeting conducted by the project directors were also used in the trial testing of the NSUN-AL. Reactions to the instrument were positive. Respondents felt that they learned something and that the items were of interest. Revisions consisted mainly of shortening the survey and replacing items that were difficult to analyze. The revised versions, both long and short forms, are included in Assessment and Evaluation: Module I of the "Good Nutrition: Try It, You'll Like It" program.

Hot·Lines - the text for each of the single concept Hot·Lines was written by the project nutritionist, then reviewed and revised by the project directors and consultants. An activity which would involve parent and child and would accompany each Hot·Line was decided upon by the project staff and tested by the Supervising Teachers of the CUSN Preschool Laboratory for their clarity of directions and acceptability. A tear-off evaluation form was originally attached to each of the Hot·Lines. The form requested that the parents in the field testing phase check whether or not the information provided was useful and if they participated in the Hot·Line recommended activity with their child. Parents were asked to

directed to parents and included an at home cooperative parent/child activity connected to the concept being presented. The Hot·Lines are also appropriate for distribution to school personnel and the community.

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return the evaluation form to their child's school. The response from the parents was negligible. In an effort to increase the return of the evaluation forms a prize was offered to the parent whose evaluation form would be drawn from the pool of "returned forms." This incentive did not measurably increase the response. Thus, the tear-off evaluation form was considered ineffective and dropped from the final Hot·Line prototypes.

"Dear RDA" - the content of the questions and the answers used in these prototype letters were researched and written by a graduate student in Home Economics under the supervision of one of the project directors. The letters were then reviewed and edited by the project nutritionists and consultants. Sample letters were published in the CSUN Preschool Newsletter. The committee of parents involved in publishing the Newsletter expressed their approval of the format and content of "Dear RDA."

Parent Meetings - Notices and handouts were designed for different types of meetings by the project staff. The art work was done by a project assistant or the Graphic Arts Department of the University. The final forms included in the For Parents and Teachers: Module V were revised to allow, whenever possible, for the replication and personalization of the material by the intended user.

PATTERNS: MODULE VI

Because of the many infringements on a classroom teacher's time --planning the daily program, parent conferences, faculty meetings, record keeping, behavior problems--teachers traditionally prefer materials that are readily accessible for classroom use. With this in mind, the prototype lesson plans developed by the project staff provided for the use of inexpensive prefabricated materials or simply constructed teacher made items.

A group of patterns consisting of reproducible drawings of characters to be used in flannel board stories and other classroom activities are included in the Patterns: Module VI of the "Good Nutrition: Try It, You'll Like It" Program.

The patterns were drawn by a project assistant following the directions of the Supervising Teachers of the CSUN Preschool Laboratory who had tested the stories and figures with groups of children. The final drawings were reviewed and approved by the project directors.

OTHER MATERIALS

In addition to Module V, other modules in the "Good Nutrition: Try It, You'll Like It" program contain materials addressed to families and the community. Module III - Recipe Book contains high nutrient density recipes and ideas for parents and school personnel to use to increase the likelihood of children accepting these nutritious foods. The concept of the Index of Nutritional Quality is explained in the Recipe Book.

The Audio/Visual Module IV describes a set of project produced media materials which can be shown to families and the community. These include a ten-minute 16mm color film, "Nutrition: Try It, You'll Like It"; a seventeen-minute color videotape, "Index of Nutritional Quality"; two six-minute filmstrips, "I'm Hungry" and "Wolfie Gets Hungry" plus accompanying audio cassettes; 35mm slides of charts of the Seven Dietary Guidelines for Americans; and a 35mm slide presentation of the NSUN-PL test items.

Press notices designed to inform the on- and off-campus community of the project goals and activities were released periodically throughout the project's duration.

Community Shopping Mall Exhibit - A set of materials was organized and designed to raise the community's awareness about the Dietary Guidelines for Americans and other project goals. The exhibit materials consisted of a variety of display stands, seven large charts graphically depicting each of the Dietary Guidelines for Americans, a set of banners which featured the names of the University and the USDA/FNS supported project. In addition, a sign listing the credits for the display was mounted.

Promotionals consisting of balloons and fans with the printed slogans "Get a Lift with Good Nutrition" and "Good Nutrition: Try It, You'll Like It" and "I'm a Good Nutrition Fan" (on fan) were produced for distribution to the community at the exhibit.

Other materials used for distribution to the community were project produced handouts plus a group of nutrition information pamphlets from a variety of sources (Appendix G).

One section of the exhibit was devoted to showing the project produced audio/visual materials "Nutrition: Try It, You'll Like it" 16mm film and "I'm Hungry" filmstrip.

PROCEDURES AND RESULTS

Recipe Book - the procedures used in developing the materials for Recipes for Early Childhood: Module III and Audio/Visual: Module IV are found in the sections of this chapter devoted to those areas.

Community Shopping Mall Exhibit - the design of the displays was created in cooperation with the CSUN Theatre Arts Department and the Graphic Arts Department. Meetings were held with faculty from these departments to clarify the goals of the exhibit and to approve display designs.

The Graphic Arts Department designed and produced the charts depicting the Dietary Guidelines for Americans, the banners and printed signs for the display. The balloons and fans were ordered through a specialty item company and a helium tank was rented from another company to blow up the balloons. The nutrition information pamphlets were collected in large quantities by members of the CSUN Home Economics Department Student Dietetic Association for distribution at the exhibit.

It is estimated that approximately 3,000 people viewed the exhibit and that 6,000 pieces of literature were distributed. The community's response to the materials was enthusiastic and the management of the Mall invited the project directors to mount other exhibits in the future.

In summary, the initial favorable responses to the project developed materials; the NSUN-AL; the Food·Nutrition Hot·Lines, the Recipe Book, "Dear RDA"; the Parent Meeting handouts; audio/visual materials and the shopping mall exhibit displays indicate that these materials should become a useful resource to those individuals, schools and agencies working to improve the nutrition knowledge and practices of families and communities.

COMPONENT IV

FAMILY/COMMUNITY NUTRITION EDUCATION

INTRODUCTION AND GOALS

Families of preschool children (particularly of those children enrolled at the California State University, Northridge (CSUN) Preschool Laboratory and community members representing off-campus agencies were the target population for this component.

The cognitive objectives of the project were to:

1) make the target group aware of the critical importance of good nutrition to the health and development of children;
2) increase awareness and understanding of good nutrition practices.

Affective and action-oriented objectives were that the target group would:

1) assess their family eating practices;
2) express the expectation that children would eat foods with high indices of nutritional quality;
3) improve the home eating environment;
4) add high nutrient density foods to the normal diet;
5) share family food favorites with the project staff and other parents;
6) attend a variety of nutrition education programs sponsored by the CSUN Preschool Laboratory.

Major community and parent education activities have been fully covered in earlier sections of this report along with evaluation data. These efforts include the instruction of 247 children and their school directors and teachers from fourteen proprietary schools (Component I, page 25, and Component II, page 45). Development of Materials (Component III) to use for this instruction and their dissemination to the off-campus sites was also an important contribution to the community. Each participating school was given a set of materials for the classroom activities used in the field study (page 25). These materials remained in the schools at the close of the project.

Other efforts to meet the family/community education objectives fell broadly into three areas: the production of a mini-conference, a nutrition fair for the general community, and the organization of nutrition education events for the CSUN Preschool Laboratory parents.

DESCRIPTION AND PROCEDURES FOR INDIVIDUAL FAMILY/COMMUNITY EVENTS

"Food for Thought" Mini-Conference

A mini-conference, "Food for Thought," was held during the first semester of the project (December 1, 1979) to heighten awareness of nutrition controversies and currently recommended practices. The half-day program was open to both students and the general public, with special promotional effort directed toward encouraging staff of local early childhood organizations to participate. Approximately 400 parents, professionals and students attended. (See Appendix F for Program).

The keynote speaker for the event was Dr. Charlotte Newmann, Professor, Department of Public Health and Medicine, University of California at Los Angeles, who spoke on health problems of young children associated with malnutrition. Distinguished speakers from the CSUN Home Economics Department addressed the topics of hyperkinesis, drug and nutrient interaction and nutrition myths.

Conferees participated in an exercise and "good nutrition" break where students demonstrated and encouraged the audience to try some stretching and relaxing techniques. Orange juice was served for refreshment.

Nutrition education materials for children were displayed and a packet of educational materials distributed to each conferee.

An evaluation (Appendix F) was solicited from each person who attended. The 126 evaluation forms completed showed a preponderance of positive remarks (i.e., was valuable knowledge gained: yes, 117; no, 9).

Nutrition Education Exhibit

Project staff, the CSUN Student Dietetic Association and the Institute of Communication and Professional Studies (ICAPS) of CSUN cooperated to present a nutrition education exhibit at the Northridge Fashion Center, a local shopping mall, from January 15, to 18, 1981. The exhibit was a part of the "Salute to Education" promotion sponsored by the mall Merchants Association.

Objectives of the event were to communicate the content of the "Dietary Guidelines for Americans" to the community and to make the community aware of the University's role in furthering the nutrition education of young children, their families and teachers.

Seventeen (17) university Home Economics students staffed the event. Faculty and staff from the Departments of Home Economics, Audio/Visual (Graphics and Photography), Theatre Arts and Public Affairs contributed their services. The Institute for Communication and Professional Studies provided partial funding ($764.00), used for the production of display materials. The USDA-FNS contributed 1,000 copies of Dietary Guidelines for Americans for distribution.

Approximately 3,000 shoppers availed themselves of one or more pieces of promotional materials (Appendix G). A description of the display is provided in Component III (page 91).

CSUN Parent Program

A number of approaches were tried to provide nutrition education at the CSUN Preschool Laboratory. These included discussion meetings, nutrition workshops, incorporating parents into the project staff, and distributing nutrition bulletins.

The subject pool of parents was primarily from middle and upper-middle class white families (although a number of minorities were represented in the group). The majority of mothers were homemakers. Approximately sixty-five families were represented in the preschool during any academic year during the project. In addition, twenty to thirty families of toddler age children (fifteen months to two years, nine months) were associated with the school during a given semester.

Although the project staff was always available to consult with parents regarding nutrition matters and to act as guest speakers upon occasion, it was a policy of the project administration to channel all events through the regular preschool staff. This required a certain amount of staff in-service training, which was explained in Component II. Parent discussion groups were the primary vehicle of parent education during the first year of the project. Direct involvement of parents in monitoring nutrition research and special nutrition education workshops were emphasized during the second year.

A description of each portion of the program follows:

Pretest of Preschool Laboratory Parents and Staff Using the Northridge Survey of Understanding Nutrition, Spring, 1980

Subjects and Procedures

The Northridge Survey of Understanding Nutrition - Adult Level (NSUN-AL) (Good Nutrition, Try It, You'll Like It: Module I) was administered to parents of children enrolled at the California State University, Northridge, (CSUN) Preschool Laboratory and to members of the teaching staff at the beginning of the Spring, 1980, semester. Parents completed the assessment during visitation on the weekday open house prior to the first day of class. Those parents who were not present at the visitation were asked to fill out

the form during the first week of school. Sixty-two of the seventy parents with children enrolled completed the form, (Appendix O, p. 205).

Staff members were assessed during the Orientation week that immediately preceded the semester. Staff were sensitive to the fact that nutrition would be emphasized during the spring semester, but had not received special training in nutrition at that time. Fifteen staff members completed the assessment. The only staff members that did not complete the assessment were those directly associated with the USDA project (i.e., lead teachers, nutritionist).

Data were analyzed using the Chi Square test of significance for items one through ten to determine:

1) if there were statistically significant differences among the four separate groups and one group of instructors;
2) if there was a statistically significant difference between parents combined and instructors;
3) if there was a statistically significant difference in response mode to the items included.

Items eleven through twenty-two which were related to food practices and needs assessment were analyzed descriptively. These items did not lend themselves to tests of statistical significance.

Results and Discussion

Items One through ten

In general, the results showed (Table 14) that most respondents did have sufficient knowledge of basic nutritional factors (e.g., salt, saturated fat, sugar) to identify and select foods from several

Table 14

Preschool Parent Responses to NSUN-AL (Items 1-10)
Analyzed by Chi Square and Percentage Correct

ITEM	GOAL	NUMBER ANSWERED A	B	C	D/DK	E	PERCENT CORRECT	CHI SQUARE	DEGREE OF FREEDOM
1.	Reduce salt	(70)	3	1	3	XX	91	178.535	3
2.	Reduce saturated fat	(53)	20	2	2	XX	69	90.117	3
3.	Estimate sugar content	2	(75)	0	0	XX	97	215.416	3
4.	Choose meal consistent with NDG	1	0	(76)	0	XX	99	223.104	3
5.	Improve nutritional quality	17	(53)	5	2	XX	69	85.442	3
6.	Reduce calories	4	(39)	11	18	5	51	53.325	4
7.	Reduce cholesterol	24	7	(25)	14	7	32	20.075	4
8.	Choose least desirable addition	11	1	(47)	12	6	61	86.053	4
9.	Milk substitute	7	10	1	(44)	15	57	73.065	4
10.	Protein substitute	6	4	(44)	15	8	57	70.857	4

(right answer)
N = 77

alternatives that were consistent with correct application of specified aspects of the Dietary Guidelines for Americans. Over 50 percent of respondents answered correctly on all items except Item 7 which addressed cholesterol. Only 32 percent identified liver as the high cholesterol choice. The item on calorie reduction (Item 6) was answered correctly only 51 percent of the time. Apparently, respondents did not recognize the calorie equivalency between margarine and butter. Choosing milk and fish substitutes (Items 9 and 10) were the most difficult tasks with 57 percent of the respondents choosing correctly in each case.

There were no significant differences in responses among groups or between teachers and parents. It was, therefore, concluded that these constituencies could be treated similarly in future nutrition education attempts.

Items Eleven through Thirteen

Item 11 referred to the site where meals are eaten. Breakfast was typically eaten at home. Thirty-five of the seventy-seven subjects indicated they always ate breakfast at home, while twenty-three indicated they did so frequently. Seventeen sometimes ate at home, while only three never did so. A sit-down restaurant was the next most popular recorded eating site for breakfast, followed by a friend's home and fast-food restaurants, in that order.

Few respondents (ten) indicated that they always ate lunch at home, although many (forty-three) frequently did so. Another sizable group (fifteen) sometimes lunched at home, while several (nine) never did so. Restaurants, other homes and fast-food chains shared favored spots as luncheon sites. Substantial numbers of respondents ate brown bag lunches

and "take-out" food. It may be concluded that respondents recorded much more variety in luncheon than in breakfast site patterns.

Most respondents (fifty-nine) indicated they ate dinner at home with a smaller number (twelve) always doing so. One respondent said that he ate dinner at home only one or two days a week and five subjects said they never ate dinner at home. Frequent home meals were supplemented by meals at restaurants (sixty) or the homes of friends (fifty-three) once or twice a week. Some respondents ate fast food (thirty-four) or "take out" dinners (thirty) once or twice a week during the dinner hour. A few people ate at restaurants (seven), other homes (one) and fast food chains (two) from as much as three to six times a week.

Responses to Items 12 and 13 addressed differences in meal patterns between weekdays and weekends. Fifty-seven percent of those polled indicated a greater tendency to eat out on weekends (Item 12). Twenty-nine percent registered a greater tendency to buy "take out" foods on weekends (Item 13).

There were no significant differences in site patterns for meals among groups or between teachers and parents.

Items Fourteen through Sixteen

Items 14 through 16 referred to snacking behaviors. Again, there were no significant differences among groups or between parents and teachers. The largest percentage of respondents (49 percent) said they snacked between two and four times a day, many (43 percent) claimed to snack once a day (Item 14). Three percent snacked five or more times per day, and five percent checked other. It can be concluded that snacks are a part of the daily nutrition of the vast proportion of subjects.

In addition, more snacking (55 percent of subjects) was done between 3:00 and 5:00 P.M. than any other two-hour period (Item 15). The remainder of snacks were spaced somewhat evenly between the hours of 9:00 and 11:00 A.M. (23 percent), 1:00 and 3:00 P.M. (31 percent), 7:00 and 9:00 P.M. (23 percent), and 9:00 and 11:00 P.M. (26 percent).

In Item 16, choices for snack foods named by the largest percentages of respondents were fruit or vegetables (57 percent), beverages (55 percent) and cookies or cake (47 percent). Respondents were asked to name their three most common snacks and a rank order list was developed from these responses. This list indicated that a component of a meal ranked first while whatever was handy and beverages shared the two and three spots.

Items seventeen through twenty-two

The remainder of the items comprised a self-assessment of needs relative to acquiring additional nutrition information and food patterns.

When asked to indicate which of the dietary goals would improve their food habits, respondents singled out the goals relative to sugar reduction and balancing calorie intake with energy expenditure as most important.

Seventy-four percent of respondents indicated a willingness to change dietary behaviors to adhere to the Dietary Guidelines for Americans, while 26 percent of respondents indicated they were satisfied with their present diets.

In order to make changes in their present eating patterns, knowing how to substitute one food for another, knowing how to manage food preparation time, getting the most nutritious foods for the least money

and a miscellaneous group of needs marked "other" were ranked of primary importance. Eighty-seven percent of respondents confirmed that they would like more nutrition information. Reading material and nutrition workshops were the leading suggestions for presentation of the sought-after information. There were some apparent inconsistencies regarding satisfaction with present diet and desire for further information. Inspection of the raw data showed that some individuals who had indicated they could improve their diet by following one or more Dietary Guidelines for Americans and who wanted more information also marked that they "agreed" that their present dietary practices were "fine." This may have been an artifact of the form itself, on which the word "agreed" appeared immediately beneath the underlined words "Willingness to change." Correct interpretation of the question would have required careful reading. It is recommended that this question be revised on the assessment form.

Conclusions and Recommendations

In summary, it is concluded that the majority of respondents appeared open to learning more about how to tailor their diets to the Dietary Guidelines. While they felt that balancing calorie intake to energy expenditure and controlling intake of sweets were their greatest needs, they were least adept at recognizing and applying the guidelines to cholesterol intake.

The meal site patterns of respondents indicated that nutrition education in both home preparation and restaurant selection of foods should be considered. Snacks were shown to comprise a substantial component of the nutrition of subjects. Since "meal components," "anything that's handy," and beverages were highest in the rank order

list of snacks, it appears that special attention should be given to keeping nutritious snacks stocked in place of empty calorie selections.

A number of recommendations for change of the assessment protocol follow.

REVISIONS FOR NSUN (ADULT LEVEL) PROTOCOL
(based on analysis of Pretest, 1980)

Item 1 - Dietary choices should be closer to one another in salt content to increase the difficulty of the questions. (Perhaps substitute (a) a high cheese dish such as fondue and a soup for the corned beef, cabbage and potatoes or (b) sauerkraut and German sausage.)

Item 2 - The above menu change should also show better discrimination on Question 2.

Item 3 - Yams could be plain instead of candied to increase the question difficulty.

Item 4 - Given that the group has the dietary goals available (page 1), it is not surprising (but encouraging) that most respondents were able to deduce the correct answer to this question.

Item 11 - Provide 5 choices: always, frequently (5-6), sometimes (3-4), seldom (1-2) and never.

Item 14 - Include never as a choice.

Additional - Make clear test pertains to adult's (respondents') eating habits rather than child's. Add questions to find out if children's eating patterns conform to adults.

CSUN Parent Discussion Meetings (Spring, 1980)

Analysis of parents' self-perceived needs as indicated on NSUN-AL assessment showed that substitution of complex carbohydrates for refined sugars and starches, the selection of protein alternatives to red meat and weight problems were primary concerns. The subsequent four discussion meetings held during this semester were planned around these topics. Each meeting was held on a Friday afternoon between 12:00 and 2:00 P.M. at the Preschool Laboratory. Baby-sitting was provided. Average attendance at the meetings was twenty. The entire schedule of meetings and a list of coordinated educational materials that were distributed at the meetings appears in Figure 8. A brief description of each meeting follows:

Discussion I: February 15, 1980

The USDA-FNS Project, "Establishing Nutritious Food Practices in Early Childhood," was introduced at this meeting. Parents were advised of the goals and procedures that would be used with their children in the classroom. The project nutritionist conducted an activity to raise awareness of children's feelings when confronted with new food and the importance of concrete experience in understanding food concepts. The activity consisted of presenting two raw vegetables not common to the Southern California diet: gobo and anise. Parents were asked to examine and/or taste the vegetables for identification purposes. Discussion followed regarding their feelings concerning the experience: feelings which ranged from fear and distaste of the unfamiliar items to enthusiasm for trying the unusual and new. The

Discussion I: February 15, 1980

"I Hear, I See, I Do and I Understand"

"High Index of Nutritional Quality"

"Revised Dietary Goals"

"Kitchen Fare"

Discussion II: February 29, 1980

"Fruits and Vegetables, What Good Are They?"

"Snacks...That Are Just Plain Good!"

"Sugar: The Hidden Truth"

"Flour, Grains, etc."

"Sodium Content"

"Sugar Content of Breakfast Cereals"

"CHO Analysis"

"Grain Book"

"Kitchen Fare"

Discussion III: March 14, 1980

"Fats in Foods"

"Complete Protein Casseroles Without Meat"

"Kitchen Fare"

Spring Party: March 28, 1980

"Easter (Spring) Ideas"

Discussion IV: April 18, 1980

NOTE: Sample materials with the exception of the "CHO Analysis" are included in "Good Nutrition: Try It, You'll Like It: Module V" (For Parents and Teachers).

Figure 8

CSUN Parent Discussion Meetings and Materials Distributed
Spring, 1980

experience was reinforced by distributing a handout called "I Hear, I See, I Do and I understand."

The two basic nutrition concepts of the Index of Nutritional Quality and the "Dietary Guidelines for Americans" were explained.

Refreshments were prepared by the discussants. The recipes used to make the refreshments were distributed on a project designed form called "Kitchen Fare." (Sample forms in "Good Nutrition: Try It, You'll Like It" Module V.)

Discussion II: February 29, 1980

Project-trained preschool staff members "manned" four interest centers where attendees investigated the following topics:

1) Sodium in Relation to the U.S. Diet
2) Replacing Refined Sugars and Flours with Complex Carbohydrates
3) Limiting Sugar Intake
4) Introducing New Grains to the Diet

Activities featured concrete approaches to the subjects (e.g., parents made a grain book at Interest Center Four by gluing small amounts of various grains onto a prepared fact form). The project nutritionist was available to answer individual questions. Parents prepared refreshments according to high nutrient density recipes provided on the Kitchen Fare Form.

Discussion III: March 14, 1980

Protein exchanges and complements were discussed at this meeting. The subject was introduced by showing the movie, "Diet for a

Small Planet." The project nutritionist conducted a discussion based on the movie. The related subjects of fats and cholesterol in protein foods were explored during the discussion period. The group prepared their own nutritious snack. Handouts included a guide to making meatless casseroles with complete protein, a paper on "Fats in Food" and Kitchen Fare recipes.

Discussion IV: April 18, 1980

Ann Stasch, Ph.D., Senior Project Nutritionist, spoke to the parent group on "Family Diet and Weight Problems." An animated discussion followed Dr. Stasch's presentation, with parents sharing ideas for plans which they perceived as successful in weight control efforts.

Discussion V: May 9, 1980

Each parent brought a favorite food from home to be shared. No specific assignments were made as to what parents should bring, although it was suggested that good nutrition be a criterion.

Special Events: Spring Parties

A Spring Party was held on the Friday afternoon prior to Spring Vacation during the two years that the project was in effect. An average of 150 parents and children attended each of these events. Both parties featured Easter Egg Hunts. Eggs which had been brought from home and colored in the classrooms prior to the parties were hidden on the playground. A handout ("Good Nutrition: Try It, You'll Like It" Module V: For Parents and Teachers) suggested alternatives to candy for celebrating spring holidays and was distributed to all adult participants.

Parent Activities During the Academic Year, 1980-1981

The Parent Program for 1980-1981 can be divided into four parts:

1) Holiday Potluck
2) Research Activity
3) Spring Nutrition Workshop
4) Publication of Hot·Lines

Holiday Potluck

A new approach was attempted at the annual Holiday Potluck; namely, recipes were collected from staff and parents with good to high indices of nutritional quality (Appendix H). The INQs were verified by a project research assistant. Parents each selected one of these recipes to prepare and share on the day of the Holiday Potluck (December, 1980). Evaluation forms completed by the participants indicated that the recipes were tasty and the event enjoyable. Attendance, however, was lower than experienced previously at this event. It was felt by the preschool and project staffs that the parents preferred to prepare their own favorite dishes for such an occasion rather than to prepare unfamiliar recipes.

Parents as Research Assistants

Parents were given the opportunity of working as research assistants for the project in exchange for lowered tuition. Six parents took advantage of this opportunity. These parents were trained in making classroom observations, administering the Northridge Survey of Understanding Nutrition - Preschool Level and measuring snack consumption. They received this training along with University students who also participated in this research. It was the combined group of trained parents and students that monitored the off-campus investigation reported in Component I - Student Instruction.

Spring Nutrition Workshops: March 31, 1981 and April 1, 1981

These meetings were held during the Preschool Laboratory hours, so that the children of parents who attended would be cared for in their regular classrooms. Parents of children enrolled in the afternoon classes attended the workshop on March 21; those whose children were enrolled in the morning classes, April 1. The workshops were held in the Meal Management Laboratory of the Home Economics Department. Each workshop was two hours in length.

Graphic Presentation of Foods and Nutrition Information

The program (identical for both days) began with a preview of the project produced 16mm color film, "Nutrition: Try It, You'll Like It" and a slide show, "I'm Hungry" (later converted into a filmstrip). These audio/visual productions were used as an introduction to (or reinforcer of) the Dietary Guidelines for Americans. Discussion of the guidelines followed the audio/visual presentations.

Hands-On Experience

Conferees prepared several nutritious food items under the direction of classroom teachers. These foods were selected to illustrate the process that the teachers use to present a food preparation lesson to the preschool children.

Discussion and Evaluation

Opportunity was provided to discuss nutrition and foods problems with the project nutritionist. A short pre-post session quiz provided materials for discussion and indicated a change

in understanding nutrition and attitudes toward nutrition from beginning to end of the session (Appendix I).

Hot·Lines Bulletins

Food and nutrition information was distributed to parents through project-designed Hot·Line bulletins. Each Hot·Line was based on one of the Dietary Guidelines for Americans. The importance of water to good nutrition was also presented in Hot·Line form as was the Index of Nutritional Quality. A unique feature of the Hot·Line presentations was that each was accompanied by an activity designed to promote interaction between parent and child on a nutrition subject. Additional information about the Hot·Lines is found in the Materials Development section of this report, page 87. Sample bulletins are presented in "Good Nutrition: Try It, You'll Like It" Module V. The first issue was created and distributed to the Preschool Laboratory parents in December of 1980. The title of this bulletin is "Which (food) is Good for Me?" Seven more Hot·Lines were disseminated on the dates indicated.

"Add Fiber to Your Diet:	December, 1980
"Water is the Stuff of Life"	January, 1981
"Cut Down on Sugar"	February, 1981
"By Pass the Salt"	February, 1981
"Hold that Fat"	March, 1981
"Maintain Ideal Weight"	April, 1981
"If you Drink Alcohol, Do So in Moderation"	May, 1981

Adoption: Fall, 1981

Upon completion of the two-year program (September 30, 1981), the project support staff assigned to working with parents was disbanded. Following that date, a number of foods and nutrition related activities were sponsored by families of children at the CSUN Preschool Laboratory and/or in the field-site schools. Although it is impossible to determine absolutely that these activities resulted from the project, one can say that the number and nature of activities showed a change from pre-project intervention period (Figure 9).

ACTIVITIES	PRE-PROJECT	POST-PROJECT
Birthday Cakes	Typical for ice cream and/or cake to be donated by parents of each birthday child	Limited to unfrosted varieties.
School Lunch for Children	NONE	Booster Club is offering a Nutritious Lunch for Children approximately once a week
Halloween Party	Refreshments: cookies, sweet punch	1) Cake Walk limited cakes and breads with good INQ scores 2) Refreshments: popcorn and fruit juice
Cook Book	NONE	Collecting from parents nutritious recipes to publish as fund-raiser
Monthly Bulletin	NONE	"CSUN Preschool Newsletter" includes RDA column (See Module V)

Figure 9

Nutrition Related Activities of Parents
Pre-Post Project Intervention

ADVISORY BOARD

A group of twelve members representative of child development, nutrition and health disciplines plus parents (Appendix N) were invited to advise the co-directors regarding project activities.

The group met periodically throughout the course of the project to review materials and proposals. They recommended sources of nutrition information and suggested improvements in preliminary materials designed for the project.

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APPENDIX A

CONSUMPTION INDEX PROCEDURES AND FORMS

PRELIMINARY CONSUMPTION INDEX PROCEDURES USED IN PRE- AND POSTTESTING, SPRING 1980

PRELIMINARY FORMS FOR RECORDING CONSUMPTION INDEX DATA

CONSUMPTION TESTING PROCEDURES USED FOR OFF-CAMPUS FOOD PREPARATION AND ASSESSMENT

FORMS FOR RECORDING OFF-CAMPUS CONSUMPTION DATA

PRELIMINARY CONSUMPTION INDEX PROCEDURE
USED IN PRE- AND POSTTESTING
SPRING 1980

1. Prepare snacks as planned on menus with the food provided. Review the components of the snack and be familiar with the standardized measurements indicated.

2. Fill plates, baskets, pitchers and other serving dishes that will be needed for snacktime with foods and beverages to be served.

3. Before leaving the kitchen, record on the chart the amount of all food going out into the classroom for the children at your table.

   Note: If more than four children will be at your table, be sure that one other staff person is also at the table. Both staff people should indicate the same amount of the food and/or beverage taken from (and returned to) the kitchen, even though they are observing different children. Record on the chart the name of the other staff person with whom you are sharing the table.

4. When snack begins label the children's names on the chart and begin recording their intake. Please handle snacktime as you do naturally.

5. Be sure to observe the amount of food and/or beverage taken by each child, including first, second, or third helpings. Don't worry about neatness or calculations on the chart. Accuracy is the most important issue.

6. Make any comments regarding unusual behavior, attitude, health or other 'problems' which may have interfered with the child's food intake.

7. Do not hesitate to get refills, if necessary. However, be sure to record the "amounts taken out of the kitchen" at the top of chart. (This same information should be recorded for staff members at your table.)

CONSUMPTION INDEX

TEACHER:_____ DATE:_____

OTHER TEACHER:_____ CLASS:_____

FOOD AND/OR BEVERAGE TAKEN FROM KITCHEN:

ITEM	AMOUNT
_____	_____
_____	_____
_____	_____
water _____	_____

FOOD AND/OR BEVERAGE RETURNED TO KITCHEN:

ITEM	AMOUNT
_____	_____
_____	_____
_____	_____
_____	_____

CHILD'S NAME: _____ _____

ITEM #1 _____		ITEM #2 _____		WATER	
AMOUNT TAKEN	AMOUNT LEFT	AMOUNT TAKEN	AMOUNT LEFT	TAKE	LEFT

COMMENTS:_____

CHILD'S NAME: _____ _____

ITEM #1 _____		ITEM #2 _____		WATER	
AMOUNT TAKEN	AMOUNT LEFT	AMOUNT TAKEN	AMOUNT LEFT	TAKE	LEFT

COMMENTS:_____

CHILD'S NAME: _____ _____

ITEM #1 _____		ITEM #2 _____		WATER	
AMOUNT TAKEN	AMOUNT LEFT	AMOUNT TAKEN	AMOUNT LEFT	TAKE	LEFT

COMMENTS:_____

CHILD'S NAME: _____ _____

ITEM #1 _____		ITEM #2 _____		WATER	
AMOUNT TAKEN	AMOUNT LEFT	AMOUNT TAKEN	AMOUNT LEFT	TAKE	LEFT

COMMENTS:_____

*TEACHER'S NAME: _____ _____

ITEM #1 _____		ITEM #2 _____		WATER	
AMOUNT TAKEN	AMOUNT LEFT	AMOUNT TAKEN	AMOUNT LEFT	TAKE	LEFT

COMMENTS:_____

CONSUMPTION TESTING PROCEDURES
USED FOR OFF-CAMPUS

FOOD PREPARATION AND ASSESSMENT

1. Complete Consumption Index form with administrators names, date, etc.

2. Wash your hands.

3. Cut all fruits, vegetables, breads in sticks, wedges, etc. as indicated on menus. During preparation discard trimming (waste) from the fruits and vegetables. Keep all pieces of the same foods in a uniform size.

4. Weigh all solid foods (keep each kind separate; i.e. zucchini strips, broccoli pieces, etc.) and measure beverage for the group being served. If teachers will be eating it is ESSENTIAL that their food be kept separate from the children's.

   4A. All solid foods, e.g. fruit items, vegetable items, bread items and crackers must be weighed.

   4B. All beverages (including water) should be measured by volume. They need not be weighed.

5. Pour beverages (milk and water) into pitchers.

6. Remember: This assessment is a quantitative group measurement. Therefore, the total amount of food going out from and returning to the kitchen is important.

7. Once the food for the children is weighed, measured and recorded, place the designated food and amount on each plate.

8. Once the food for the adults is weighed, measured and recorded, pre-portion their plates with the food. (Write "T" on the underside of their plates.

9. The extra food that was weighed but not plated may be placed in additional serving platters to be placed on the snack table for seconds for the children. Re-emphasize to the adults that they may NOT eat out of the children's serving platters.

10. During snack time see that no food gets deposited in the trash, or that no beverage gets poured into the sink. Do NOT let children drink water from fountain. Refills of foods and beverages must be weighed and recorded before leaving kitchen.

11. When snack time is over, collect all plates and cups with food pieces and beverage. Keep children's plates separate from teacher's plates. Be sure to collect uneaten foods on serving platters and beverages that remain in pitchers.

12. Combine all scraps (of one kind of food) from plates and platters record their weight. Repeat for all food items, record their weights. Combine all leftover beverages and re-measure volume. Record all measurements on Consumption Index form.

FORMS FOR RECORDING OFF-CAMPUS CONSUMPTION DATA

ADMINISTRATORS _____ DATE _____

PRE-TEST_____ POST TEST _____ CLASSROOM IDENTIFICATION NUMBER_____

NUMBER OF CHILDREN IN ATTENDANCE _____ NUMBER OF ADULTS IN ATTENDANCE _____

CHILDREN'S CONSUMPTION INDEX

NAME OF BEVERAGE 1_____

	AMOUNT TAKEN FROM KITCHEN			AMOUNT RETURNED TO KITCHEN			OFFICE USE ONLY
	Plate weight	Plate/food weight	Food weight	Plate weight	Plate/food weight	Food weight	AMOUNT CONSUMED
Premeasured							
Refill 1							
Refill 2							
Refill 3							
TOTALS							

NAME OF BEVERAGE 2_____

	AMOUNT TAKEN FROM KITCHEN			AMOUNT RETURNED TO KITCHEN			AMOUNT CONSUMED
	Plate weight	Plate/food weight	Food weight	Plate weight	Plate/food weight	Food weight	
Premeasured							
Refill 1							
Refill 2							
Refill 3							
TOTALS							

NAME OF TEST FOOD 1_____

	AMOUNT TAKEN FROM KITCHEN			AMOUNT RETURNED TO KITCHEN			AMOUNT CONSUMED
	Plate weight	Plate/food weight	Food weight	Plate weight	Plate/food weight	Food weight	
Premeasured							
Refill 1							
Refill 2							
Refill 3							
TOTALS							

NAME OF TEST FOOD 2_____

	AMOUNT TAKEN FROM KITCHEN			AMOUNT RETURNED TO KITCHEN			AMOUNT CONSUMED
	Plate weight	Plate/food weight	Food weight	Plate weight	Plate/food weight	Food weight	
Premeasured							
Refill 1							
Refill 2							
Refill 3							
TOTAL							

NAME OF TEST FOOD 3_____

	AMOUNT TAKEN FROM KITCHEN			AMOUNT RETURNED TO KITCHEN			AMOUNT CONSUMED
	Plate weight	Plate/food weight	Food weight	Plate weight	Plate/food weight	Food weight	
Premeasured							
Refill 1							
Refill 2							
Refill 3							
TOTAL							

NAME OF TEST FOOD 4_____

	AMOUNT TAKEN FROM KITCHEN			AMOUNT RETURNED TO KITCHEN			AMOUNT CONSUMED
	Plate weight	Plate/food weight	Food weight	Plate weight	Plate/food weight	Food weight	
Premeasured							
Refill 1							
Refill 2							
Refill 3							
TOTAL							

NAME OF TEST FOOD 5_____

	AMOUNT TAKEN FROM KITCHEN			AMOUNT RETURNED TO KITCHEN			AMOUNT CONSUMED
	Plate weight	Plate/food weight	Food weight	Plate weight	Plate/food weight	Food weight	
Premeasured							
Refill 1							
Refill 2							
Refill 3							
TOTAL							

ADULT CONSUMPTION INDEX

	AMOUNT TAKEN FROM KITCHEN			AMOUNT RETURNED TO KITCHEN			AMOUNT CONSUMED
	Plate weight	Plate/food weight	Food weight	Plate weight	Plate/food weight	Food weight	
BEVERAGE 1_____							
Premeasured							
TOTAL							
BEVERAGE 2 _____							
Premeasured							
TOTAL							
TEST FOOD 1 _____							
Premeasured							
TOTAL							
TEST FOOD 2_____							
Premeasured							
TOTAL							
TEST FOOD 3_____							
Premeasured							
TOTAL							
TEST FOOD 4_____							
Premeasured							
TOTAL							

APPENDIX B

PRESCHOOL TELEPHONE SURVEY FORM

PRESCHOOL TELPHONE SURVEY

Date _____

1. Name of School _____ Phone_____

2. Name of Director _____

3. Number of students enrolled _____

4. Are the students divided into more than one class?

yes_____ no_____

5. Of what ethnic groups are your students? _____( )

_____( )

_____( )

_____( )

_____( )

6. Can you list the groups mentioned in order of the number enrolled? (Above)

7. Do you have a full day or half day schedule at your center?

full day_____ half day_____

8. Do you serve regular meals, or just snacks?

meals_____ snacks_____

**********(FOR MEALS ONLY)**********

9. What meals do you serve?

Breakfast_____ Lunch_____ Snacks(#)_____

10. What kind of preparation do you use for the meals?

on-site kitchen_____ cook?_____

satellite kitchen _____

contract meal service_____

teachers prepare_____

parents provide_____

other_____

****

11. Do you get federal reimbursement for your food program?

yes_____ no_____

12. Do you prepare menus in advance for your snacks?

yes_____ no_____

page 2

13. Who plans the menus? _____

14. Who prepares the snacks?

Director_____
teacher_____
children_____
parents_____
cook_____

15. Can you name some typical snacks? _____

_____

_____

_____

16. Are there considerations taken for ethnic preferences when planning the snacks?

yes_____ no_____

17. Do you incorporate any nutrition education in your center's activities?

food preparation_____
food related art_____
science_____
music_____
other_____

18. Are there any general planning goals followed when preparing snacks?

_____

_____

_____

19. Would you be willing to be considered for participation in a U.S. Dept. of Agriculture research project conducted by Cal. State University, Northridge?

yes_____ no_____

20. May we share this information with the San Fernando Valley Child Care Resource Center?

yes_____ no_____

21. Do you have Audio Visual Equipment at your disposal?

Yes _____ no _____ kind _____

APPENDIX C

CLASSROOM EVALUATION INSTRUMENTS

SNACK EVALUATION

NUTRITION ACTIVITY EVALUATION

SNACK EVALUATION

OBSERVER _____ DATE _____ TEACHER _____

SCHOOL _____ AGE GROUP _____ TO _____ NUMBER IN ATTENDANCE _____

AIDE 1 _____ AIDE 2 _____ AIDE 3 _____

TIME FIRST CHILD SEATED _____ TIME LAST CHILD LEAVES _____ TOTAL TIME AT TABLE _____

1.0 Preparation for Snack

1.1 Activity Preceding Snack:

	YES	NO
Handwashing	_____	_____
Other (Identify)	_____	_____
_____		

1.2 Table Setting:

Set by adult(s)	_____	_____
Set by child(ren)	_____	_____
Place Setting:		
Napkins	_____	_____
Placemats	_____	_____
Forks	_____	_____
Knives	_____	_____
Spoons	_____	_____
Cup/Glass	_____	_____
Plate/ bowl	_____	_____
Other	_____	_____
_____		

1.3 Food Prepared:

	YES	NO
In classroom	_____	_____
In kitchen	_____	_____
Prepared by adults only	_____	_____
Children helped prepare	_____	_____
Other _____	_____	_____

1.4 Food Served:

Family style (children help selves from common serving dishes)	_____	_____
Preportioned Serving (Adults regulate amount)	_____	_____
Other (explain)	_____	_____
_____		

COMMENTS:

2.0 Menu - Indicate Food

	YES	NO
Beverage:		
Milk: ____ / ____ / ____ (non-fat / 2% / whole)	____	____
Juice (Specify) ____	____	____
Water	____	____
Solid Food: Be Specific.		
Solid 1: ____	____	____
Solid 2: ____	____	____
Solid 3: ____	____	____

3.0 Children's Food Consumption Behavior:

3.1 Number of children seated:

Table 1	____	____
Table 2	____	____
Table 3	____	____
Table 4	____	____

COMMENTS:

3.2 Number of children who do not taste:

Beverage	____
Solid 1	____
Solid 2	____
Solid 3	____

3.3 How many children appear to enjoy food?

	Most	50%	Few
Beverage	____	____	____
Solid 1	____	____	____
Solid 2	____	____	____
Solid 3	____	____	____

3.4 Classroom atmosphere during snack:

Happy noise	____
Quiet	____
Chaotic	____
Other ____	____

4.0 Adult Behaviors

	Teacher		Aide 1		Aide 2		Aide 3		Other	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Seated at tables	___	___	___	___	___	___	___	___	___	___
Eating with children	___	___	___	___	___	___	___	___	___	___
Conversation:										
Identifies (e.g. this is zucchini)	___	___	___	___	___	___	___	___	___	___
Gives food or nutrition information (e.g. zucchini is a vegetable)	___	___	___	___	___	___	___	___	___	___
Most relates to food and nutrition	___	___	___	___	___	___	___	___	___	___
Little relates to food and nutrition	___	___	___	___	___	___	___	___	___	___
None relates to food and nutrition	___	___	___	___	___	___	___	___	___	___

5.0 Clean Up	YES	NO
Children help	___	___
Adults	___	___

COMMENTS:

NUTRITION ACTIVITY EVALUATION

OBSERVER_____ DATE_____ TEACHER_____

SCHOOL _____ AGE GROUP ____TO____ CHILDREN PRESENT IN ROOM_____

NUMBER OF ROOMS _____ ADULTS PRESENT: STAFF _____ VISITORS_____ OBSERVERS_____

NAME OF NUTRITION ACTIVITY _____ IDENTIFY # OF ACTIVITY _____

TIME ACTIVITY BEGINS _____ TIME ACTIVITY ENDS _____ TOTAL TIME _____

LIST ALL ACTIVITIES OCCURRING DURING TIME SLOT: STARTING WITH THE ONE YOU ARE ASSESSING	CHECK THE APPROPRIATE DESCRIPTION BELOW: Small group activity	Large group activity	All children participate at once	Children come and go at will	RANK CHILDREN'S PREFERENCE FOR ACTIVITIES (1 = most preferred)
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

The following questions pertain to the nutrition activity only:

1.0 Is lesson plan followed? Yes____ No____ If No, list modifications:_____

_____

1.1 Estimate quality of materials (e.g. do they work?) Excellent____Okay____Poor____

2.0 Roles

2.1 Teacher's role: _____ _____ _____ _____

2.2 Aide's role: _____ _____ _____ _____
demonstrates facilitates directs activity is self-directional

3.0 Activity takes place: _____ _____ _____
table floor other (explain)

4.0 Number of children that take part in activity._____

5.0 Number of adults that take part in activity._____

6.0 Participation

		High	Moderate	Low
6.1	Children			
6.11	Attention	_____	_____	_____
6.12	Enjoyment	_____	_____	_____
6.2	Adults (if activity is a self-directional design, do not fill in this section)			
6.21	Teacher	_____	_____	_____
6.22	Aides	_____	_____	_____

COMMENTS:

APPENDIX D

QUESTIONS AND GUIDELINES IN CURRICULUM DESIGN

QUESTIONS AND GUIDELINES IN CURRICULUM DESIGN

by

Molly C. Gorelick, Ed.D.

I. WHAT ARE THE OBJECTIVES?

A. Source and Screening of instructional objective (Tyler 1950)

1. Society	Two	Philosophy of Education
2. Learner	Screens	Psychology of Learning
3. Subject Matter		

B. Taxonomy of objectives (Bloom, 1956) (Krathwohl et al. 1964)
   1. Cognitive
   2. Affective
   3. Psychomotor

C. Typology of objectives (Gorelick 1963)
   1. Global
   2. Major
   3. Minor
   4. Operational

D. Selecting behavioral/operational objectives

II. WHAT LEARNING OPPORTUNITIES WILL ACHIEVE THESE OBJECTIVES?

A. Appraising learner's entry behavior relative to objective
   1. Written pre-test
   2. Verbal pre-test
   3. Systematic recorded observations
   4. Other

B. Appraising how student learns - recognizing that learners differ in:
   1. Sense modalities employed in learning
   2. Drive, interests, motivation
   3. Rate at which learning takes place
   4. Step size of material learner can handle
   5. Reactions to teaching styles
   6. Nature of learning strengths

C. Utilizing principles of learning in designing and selecting teaching materials and activities
   1. Discriminability of stimulus
   2. Invariance
   3. Focus of attention
   4. Active response
   5. Repetition
   6. Reinforcement (primary or secondary)
   7. Feedback
   8. Branching
   9. Relevant practice
   10. Teach for transfer
   11. Overlapping

III. HOW SHALL THESE LEARNING OPPORTUNITIES BE ORGANIZED?

A. Criteria
   1. Continuity
   2. Sequence
   3. Skills

C. Principles
   1. Learning Hierarchies (Gagne 1968)
   2. Chronological
   3. Simple to difficult or vice versa
   4. Geographical expansion
   5. Logical
   6. Psychological

IV. HOW SHALL THE ACHIEVEMENT OF THE OBJECTIVES BE EVALUATED?

A. Assessing change in terminal behavior
   1. Written post-test
   2. Verbal post-test
   3. Systematic recorded observations
   4. Other

B. Utilizing results to determine effectiveness of instructional paradigm
   1. Identify appropriate improvements
   2. Eliminate weaknesses
   3. Implement and extend effective and desirable outcomes

References

Bloom, Benjamin S. Taxonomy of Education Objectives: Handbook I, Cognitive Domain, David McKay Co., N.Y., 1956.

Gagne, Robert M. "Learning Hierarchies." Educational Psychologist, Vol. 6, No. 1, Nov. 1968. APA Div. 15. Purdue.

Gorelick, Molly C. Typology of Curriculum Objectives: from Ambiguity to Precistion. Mental Retardation, Vol. 1, No. 4, 1963.

Krathwohl, David et al. Taxonomy of Educational Objectives: Handbook II, Affective Domain. David McKay Co., N.Y., 1964.

Mager, Robert F. Preparing Instructional Objectives. Palo Alto, California, Fearon Publ., 1962.

Tyler, Ralph. Basic Principles of Curriculum and Instruction. University of Chicago, Illinois, 1950.

APPENDIX E

STAFF SURVEY OF NUTRITION KNOWLEDGE/ATTITUDES

and

COVER LETTER

STAFF SURVEY OF NUTRITION KNOWLEDGE/ATTITUDES

Which of the following foods would you recommend for between meal snacks?
(Check the one from each group with the highest Index of Nutrient Quality)

graham crackers _____
plain popcorn_____
saltimes_____

whole wheat bread_____
banana bread_____
oatmeal cookies_____

jello_____
fruit juice_____
fruit drink_____

tuna fish_____
bologna_____
cheddar cheese_____

Heartland granola_____
Alpha Bits_____
Cheerios_____

pear_____
apples_____
orange_____

	AGREE	NEUTRAL	DISAGREE
Children can learn to use sharp knives to prepare food with adult supervision.	_____	_____	_____
Nutrition is too complicated to teach to preschool children.	_____	_____	_____
Grown-ups teach children about food by talking about their own likes and dislikes.	_____	_____	_____
Food served as snacks need to be just as nutritious as food served at mealtime.	_____	_____	_____
Children have to be made to taste new foods.	_____	_____	_____
It is OK to use food for rewards as long as it is a nutritious food.	_____	_____	_____
It is possible to obtain all the nutrients we need by eating a wide variety of foods without taking vitamin and mineral supplements.	_____	_____	_____
Crash dieting is a sure way to loose weight and keep it off.	_____	_____	_____
In light of present controversies, it is recommended that the fat in one's diet be cut down.	_____	_____	_____
If a person is eating fruits, vegetables, whole grain bread and cereals there is no reason to add additional fiber to their diet.	_____	_____	_____
The natural sugars of honey are more nutritious than refined sugars.	_____	_____	_____
A calorie is a fatty substance in food which causes weight gain.	_____	_____	_____
A course in Preschool food and nutrition should be added in a teacher college curriculum.	_____	_____	_____

ON THE REVERSE SIDE - Please write down 3 nutritious snacks.

CALIFORNIA STATE UNIVERSITY, NORTHRIDGE
Northridge, California 91324

"IN THE SAN FERNANDO VALLEY"

Department of Home Economics
(213) 885-3051

Pre-School Laboratory
885-3131

April 21, 1981

Dear

I would like to introduce myself to you as I have not had the opportunity to meet every staff person working in the lab. this semester. My name is Laurie and I am the nutritionist on the Nutrition Education project currently going on in the preschool.

As part of our project I would like to get your input concerning the needs a preschool teacher may have in the area of Foods and Nutrition Education. If you could set aside 10 to 15 minutes on either Wednesday, May 6; Thursday, May 7; or Friday, May 8, between the hours of 10:00am and 4:00pm it would be greatly appreciated. It would be most desirable if you could arrange our short meeting outside of your assigned preschool classroom time.

Please drop me a note in the "Grant" mailbox indicating the most convenient day and time for you. I will mark my calender promptly. If you have any conflicts on questions please don't hesitate to notify me.

Thank you. I look forward to talking to you.

Sincerely,

Laurie

Laurie Keil Leeb

APPENDIX F

MATERIALS FROM FOOD-FOR-THOUGHT CONFERENCE

PROGRAM EVALUATION FORM

FOOD-FOR-THOUGHT CONFERENCE

A FEW

"NUTRIFIC IDEAS"

DEC. 1, 1979

Beyond the International Year of the Child

Food for Thought

a conference
highlighting nutritional needs
of children as we
enter the 1980's

Saturday, December 1, 1979
California State University,
Northridge
Speech Drama 121
8:30 am – 12:30 pm

Sponsored by the Home Economics Department
Partially Supported by USDA-FNS Project at 59-3198-9-70
Continuing Education Credit Available to CHEA Members

Nutrition Consciousness Raising

Program

8:30	Registration
8:50	Greetings Dr. Marjory Joseph, Chair, Home Economics
9:00	Introduction of Keynote Speaker Dr. Molly Gorelick, Conference Co-Chair
9:10	"Unsolved Nutrition Problems of Children Today" Dr. Charlotte Neumann, M.D. Professor, Departments of Public Health & Medicine, U.C.L.A.
10:00	Nutrition Education Displays Gerry Luethy, Sandy Rifkin Supervising Teachers, CSUN Preschool Laboratory
	Nutrition Break
10:20	Introduction to Panel of Experts Dr. Audrey Clark, Conference Co-Chair
	"Food Additives and Hyperactivity" Dr. Tung-Shan Chen
	"Nutrition: Myths and Realities" Dr. Ann Stasch
	"Nutrient and Drug Interaction in Children" Dr. Christine Smith
12:00	Rap with the Experts

EVALUATION FORM

It would be greatly appreciated if you would take the time to answer the questions below at the end of the conference. Please give the completed questionnaire to the attendants at the exits. Thank you.

Which of the speakers/lectures did you enjoy most?

Do you think that you have gained any valuable knowledge from this workshop? Yes_____ No_____

What subjects would you like to see covered in future workshops?

Additional comments:

EVALUATION FORM

It would be greatly appreciated if you would take the time to answer the questions below at the end of the conference. Please give the completed questionnaire to the attendants at the exits. Thank you.

Which of the speakers/lectures did you enjoy most?

Do you think that you have gained any valuable knowledge from this workshop? Yes_____ No_____

What subjects would you like to see covered in future workshops?

Additional comments:

APPENDIX G

PUBLICATIONS DISTRIBUTED AT NORTHRIDGE MALL EXHIBIT

PUBLICATIONS DISTRIBUTED AT NORTHRIDGE MALL EXHIBIT

Free publications were obtained for distribution at this community event. Sources are listed below; followed by the publication titles and number of copies supplied.

1) Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

Nutrition and Your Health: Dietary Guidelines for Americans (Home & Garden Bulletin No. 232) - 1,000 copies

2) American Heart Association
2405 West 8th Street
Los Angeles, California
(213) 385-4231

Diet & Coronary Heart Disease - 300 copies

E Is For Exercise - 300 copies

The Way to a Man's Heart - 500 copies

3) National Dairy Council
6300 North River Road
Rosemont, Illinois 60018
(312) 696-1020

Guide to Good Eating (in English & Spanish) - 1,000 copies

Vitamin Facts - 300 copies

Your Food--Chance or Choice? - 300 copies

Personalized Weight Control - 300 copies

Guide to Wise Food Choices - 200 copies

Vegetarian Nutrition - 200 copies

4) Cooperative Extension
Los Angeles: Genevieve Ho (213 744-4878
Berkeley: Bill Wade (415) 642-2431

Vegetable Know-How - 300 copies

Making Jams & Jellies with Little or No Sugar - 100 copies

4) (continued)

Calorie Control - 500 copies

Soybeans as a Protein Source - 200 copies

Turkey Tips (if fair held before holidays) - 200 copies

Meals for One or Two - 200 copies

5) Sunkist Growers, Inc.
14130 Riverside Drive
Sherman Oaks, California
(213) 986-4800

When the Doctor Says, "Limit Sodium," Think Fresh Lemon - 300 copies

Questions and Answers about Vitamin C and Fresh Citrus Fruits - 300 copies

Posters on Vitamin C [for teenagers] - 300 copies

6) Order Department of the American Medical Association
P.O. Box 821
Monroe, Wisconsin 53566

Your Age and Your Diet: Infancy through Childhood - 300 copies

7) Consumer Health Information
Reference Librariarn (213) 830-0909

8) General Mills, Inc.
Nutrition Department
Department 45, P.O. Box 1112
Minneapolis, Minnesota 55440

Vitamins & Minerals - 300 copies each

9) Kraft, Inc.
Consumer Affairs Department
Chicago, Illinois 60677

Guidelines to Good Health - 300 copies

Food & Nutrition Terms - 300 copies

10) Cereal Institute, Inc.
1111 Plaza Drive
Schaumburg, Illinois 60195

Food Facts - 300 copies

11) Consumer Information Center
Pueblo, Colorado 81009

Consumer's Guide to Food Labels - 300 copies

Grandma Called It Roughage - 300 copies

Nutrition & Your Health - 300 copies

A Primer on Dietary Minerals - 300 copies

Protein, Carbohydrates, Fats, & Fibers - 300 copies

Salt - 300 copies

Sugar - 300 copies

Some Facts & Myths About Vitamins - 300 copies

The Confusing World of Health Foods - 300 copies

12) CSUN Home Economics Department

Establishing Nutritious Food Practices
in Early Childhood Project:

Food and Nutrition Hot-Lines - 300 copies each:

Sugar

A Healthy Diet

Fiber

Water

Food Spinner Game

12) CSUN Student Dietetic Association

Approximate High Quality Life of Some Perishable Foods
Held in a Home Refrigerator/Store In a Freezer - 300 copies

Quiz: Which has the most Calories? - 300 copies

Vitamins & Minerals: Food Sources & Body Functions - 300 copies

Love Is...Doing Nutrition Word Games Together - 300 copies

Two Recipe Booklets:

Nutritious & Appetizing Snacks You and Your
Children Can Enjoy - 300 copies

Meals in Minutes - 300 copies

APPENDIX H

PARENT POTLUCK RECIPES

Eggplant Casserole

2 tablespoons margarine
1/2 lb. mushrooms, sliced
1 cup chopped onion
1 large eggplant, pared and cut into 1/2-inch cubes
1 quart Basic meat Sauce
1 cup grated Parmesan cheese

In a large saucepan, melt margarine and add mushrooms and onion. Cook 5 minutes. Add eggplant and meat sauce. Mix well. Turn into 2-quart casserole and bake covered, in 375 degree oven for 40 minutes. Remove cover and sprinkle with cheese. Bake uncovered 15 minutes.

Rum-Baked Acorn Squash

3 acorn squash, cut into halves
1 1-pound 4-ounce can crushed pineapple, well-drained
1/2 cup margarine, melted
6 slices white bread, crumbled
1 to 2 tablespoons rum
1/4 cup brown sugar, packed

Place acorn squash halves cut side down in greased, shallow baking pan. Bake at 350 degrees 40 to 45 minutes or until squash is easily pierced. Turn right side up and scoop out seeds. Scoop out squash pulp and mash in a bowl. Mix in pineapple, butter, bread, rum and brown sugar. Spoon mixture into squash shells. Return to 350-degree oven and bake another 20 minutes or until lightly browned. Serves 6.

Italian Stuffed Mushrooms

1 pound large mushrooms
1-1/2 cups fine dry bread crumbs
2 tablespoons finely chopped parsley
3/4 cup chopped fresh or drained canned tomatoes
1 clove garlic, crushed
1/4 teaspoon marjoram
3 tablespoons grated Parm. cheese
1/2 teaspoon salt
Dash pepper
1/4 cup water

Wipe mushrooms with damp cloth and remove stems, saving for other use. Combine bread crumbs, parsley, tomato, garlic, marjoram, cheese, 1/4 cup oil, salt and pepper. Fill mushroom caps with mixture. Pour water into shallow baking dish. Arrange mushrooms, stuffed sides up, snugly in baking dish. Drizzle remaining oil over mushrooms. Bake at 400 degrees 20 minutes, or until mushrooms are tender. Makes 12 to 16 appetizers.

Clay Pot Chicken

3 pounds chicken breasts
salt, pepper
1 teaspoon marjoram, crushed
1 teaspoon basil, crushed
8 small white onions
1/2 cup brandy
1 cup shredded cheese (any kind)
6 large mushrooms, sliced
1/2 cup chopped parsley
1 to 1½ tablespoons arrowroot
2 tablespoons water

Immerse clay pot in water 15 minutes. Remove from water and place chicken breasts in pot. Season to taste with salt and pepper. Add marjoram, basil, onions, and brandy. Cover with cheese, then mushrooms, and parsley. Cover pot and place in cold oven. Bake at 475 degrees approximately 1 hour or until chicken is tender. Remove chicken to warm platter and pour liquid into saucepan. Mix arrowroot with water to dissolve. Stir into liquid in pan and heat just until thickened. Pour over chicken. Serve with rice or buttered noodles, if desired. Makes 4 to 6 servings.

Marinated Vegetables

In a large skillet combine:

1 cup salad dressing
1/2 cup dry white wine
1/2 cup lemon juice
1 tablespoon parsley, chopped
1 tablespoon onion flakes
1 teaspoon salt

Bring to a boil and add:

1 cauliflower broken into flowerets
1/4 pound small mushrooms
2 sliced carrots

Cook over medium heat about 5 minutes. Pour into jar with lid and chill thoroughly. Will keep in frig 1-2 weeks.

Several hours before serving, add sliced:

zucchini
celery
cherry tomatoes
cucumber
black or green olives

Drain and serve as salad or appetizer. Makes about 3-4 pints.

Almond Macaroon Fruit Salad

Drain and mix:

apricot halves - 29 oz can
pear halves - 29 oz can
peach slices - 29 oz can
plums - 29 oz can
pitted sour cherries - 16 oz.
pineapple chunks - 16 oz.

12 large crumbled macaroons
4 oz. sliced almonds
2 tablespoons margarine
1 teaspoon ground cinnamon

Cover bottom of 9" casserole with 1/3 of fruit, then cover with 1/3 f macaroons, 1/3 almonds, 1/3 butter, 1/3 cinnamon, repeat twice more, using up all ingredients.

Chicken Newburg A L'Avocat

3 tablespoons margarine
2 tablespoons flour
1 cup half and half or milk
1 cup diced chicken
salt, pepper
1 tablespoon dry sherry
1 cup cooked rice
1 ripe avocado, halved
ground nutmeg

Melt 2 tablespoons margarine in small saucepan. Stirring quickly with wire whisk, add flour gradually to form bubbly paste. Add half and half, stir over medium heat until thick and smooth and remove from heat. Meanwhile, add remaining butter to small skillet. Saute chicken until cooked through. Add chicken to cream sauce and season to taste with salt and pepper. Add sherry. In 2 small ramequins, place layer of rice, followed by avocado half shells. Spoon sauce first in avocado cavities. Pour remaining sauce to cover casserole dishes. Sprinkle with nutmeg. Serve at once. Makes 2 servings.

Spanish Rice

1 cup brown rice
2 medium onions, diced
2 tablespoons safflower oil
3 tomatoes, chopped
2 tablespoons vinegar
1/2 cup tomato juice
1/2 teaspoon black pepper
2 teaspoons onion powder
1/8 teaspoon garlic powder
1/2 tsp dry, ground horseradish

Saute onion, green pepper and rice in oil until rice is dark brown. Add all other ingredients. Simmer 5 minutes. Put in casserole. Bake at 350 for 30 minutes.

Tuna Skillet Supper

1/4 cup chopped green onions
1/4 cup chopped parsley
2 tablespoons butter
3 cups cooked rice
1 (7-ounce) can chunk-style tuna, drained
2 eggs, lightly beaten
1/2 teaspoon grated lemon peel
2 tablespoons lemon juice
1 teaspoon garlic salt
1/2 cup shredded cheddar cheese

In large skillet cook green onions and parsley in butter until onions are tender. Add rice and tuna and heat. Combine eggs, lemon peel, juice and garlic salt. Stir in shredded cheese. Pour over tuna mixture. Stir quickly until cheese is melted and eggs are set. Makes 3 servings.

Chicken Avocado Stir-Fry for Two

2 chicken breast halves, boned and skinned
3 tablespoons chicken broth
1/4 cup cold water
2 tablespoons soy sauce
2 teaspoons cornstarch
2 tablespoons oil
4 medium mushrooms, sliced
2 green onions, thinly sliced
1 avocado, peeled, seeded and diced
1/2 cup whole, unsalted cashews

Cut chicken into bite-size pieces. Mix together chicken broth, cold water, soy sauce and cornstarch. Set aside. Heat oil in wok or large skillet over moderately high heat. Add chicken pieces and stir-fry 2 minutes. Add mushrooms and green onions. Stirring constantly, pour in soy sauce mixture and cook until sauce thickens, about 1 minute. Add chopped avocado and cashews. Serve immediately. Makes 2 servings.

Comida Mexicana

6 ounces lean ground beef
1/3 cup chopped onion
1/3 cup green pepper
1/2 small clove garlic, crushed
2 teaspoons chili powder
1/2 teaspoon salt
1 cup cooked rice
1/3 cup tomato sauce
1/4 cup low-fat cottage cheese
1/3 cup cubed cheddar cheese

Cook beef, onion, green pepper, garlic, chili powder and salt until meat is brown and vegetables are tender. Stir in rice, tomato sauce, and cheeses. Serve with additional chopped green onions and tortilla chips, if desired. Makes 2 servings.

Salmon Mousse

1/2 ounce (1 env.) unflavored gelatin
1/2 cup water
1 cup tomato soup
2 - 3 oz. pkg cream cheese
2 teaspoons chopped onions
1 tsp worcestshire sauce
1 cup salad dressing
1 cup chopped celery
2 large cans salmon

Add gelatin to soup, and bring to a boil. While warm, add cream cheese and all other ingredients. Place in ungreased fish mold. Refrigerate.

Orange-Almond Salad

For the salad greens, use romaine, iceberg, or red-leaf lettuce.

1/2 cup slivered almonds
2 quarts lightly packed torn salad greens
1 cup thinly sliced celery
2 tablespoons chopped parsley
2 green onions, thinly sliced
1/4 cup salad oil
salt and pepper
2 tablespoons white wine vinegar
1 tablespoon sugar
1/8 teaspoon liquid hot pepper seasoning
2 cans (11 oz. ea.) mandarin oranges, well drained

Spread the almonds in a single layer in a shallow baking pan. Toast in a 350 oven for about 8 minutes or until golden brown. Set aside. In a salad bowl, combine the greens, celery, parsley, and green onion. Cover and chill 2 to 4 hours. In a small jar or bowl, combine the oil, vinegar, sugar and hot pepper seasoning; shake or stir well. Let stand at room temperature. To serve, shake or stir the dressing, then pour over salad mixture. Distribute oranges and almonds over top and toss. Season to taste with salt and pepper. Serve at once. Makes about 6 servings.

Melon and Egg Salad

6 hard-cooked eggs, chopped
1 cup chopped apple
1/3 cup chopped celery
2 tablespoons chopped walnuts
2 tablespoons raisins
2 tablespoons bottled French dressing
2 tablespoons salad dressing
1 tablespoon lemon juice
1/4 teaspoon salt
2 cantaloupes, halved and seeded

In medium mixing bowl combine eggs, apple, celery, nuts, raisins, dressings, lemon juice and salt. Mix gently to moisten thoroughly. Chill 2 to 3 hours. Fill center of each cantaloupe half with about 3/4 cup egg salad. Chill until serving time. Makes 4 servings.

Singapore Chicken Salad

4 chicken breast halves, skinned and boned
2 tablespoons oil
1/4 cup sherry
1/4 cup soy sauce
1/2 teaspoon ginger
1/4 teaspoon pepper
1 (6 ounce) package snow peas
3 cups cooked rice
1 (8-ounce) can water chestnuts, drained and sliced
1 (4-ounce) can sliced mushrooms, drained, or 1 cup sliced fresh mushrooms
1/2 cup salad dressing

Cut chicken in 1/2-inch pieces. Heat oil in skillet. Add chicken pieces and cook 3 or 4 minutes, or until opaque. Remove from heat. Add sherry, soy sauce, ginger and pepper. Cool. Pour boiling water over peas and drain. Combine peas, rice, water chestnuts and mushrooms in a large mixing bowl. Add chicken mixture and salad dressing. Toss lightly. Makes 6 servings.

Italian Zucchini Crescent Pie

4 cups thinly sliced unpeeled zucchini
1 cup coarsely chopped onion
1/2 cup margarine
1/2 cup chopped parsley or 2Tablespoons parsley flakes
1/2 teaspoon salt
1/2 teaspoon pepper
1/4 teaspoon garlic powder
1/4 teaspoon basil
1/4 teaspoon oregano leaves
2 eggs, well beaten
8 ounces shredded Muenster or mozzarella cheese
1 (8-ounce) can refrigerated crescent dinner rolls
2 teaspoons Dijon-style or prepared mustard

Cook zucchini and onion in butter in 10-inch skillet until tender, about 10 minutes. Stir in parsley, salt, pepper, garlic powder, basil and oregano. In a large bowl blend eggs and cheese. Stir in vegetable mixture. Separate dough into 8 triangles. Place in an ungreased 11-inch quiche pan, 10-inch pie pan or 12x8 inch baking dish. Press over bottom and up sides to form crust. Spread crust with mustard. Pour vegetable mixture evenly into crust. Bake at 375 degrees 18 to 20 minutes or until knife inserted near center comes out clean. If crust becomes too brown, cover with foil during last 10 minutes of baking. Let stand 10 minutes before serving. Cut into wedges to serve. Serve hot. Makes 6 servings. Note: If using a 12x8 inch baking dish, separate dough into 2 long rectangles. Press over bottom and 1 inch up sides to form crust. To reheat, cover loosely with foil. Bake at 375 degrees 12 to 15 minutes.

Three-Bean Salad with Honey Dressing

1 16-ounce can green beans, drained
1 16-ounce can red kidney beans, drained
1 16-ounce can wax beans, drained
1/2 red onion, chopped coarsely
1/2 green pepper, cut in chunks
Honey Dressing

In large bowl combine all beans, onion and green pepper. Toss well. Serve with Honey Dressing. Makes 6 to 8 servings.

Honey Dressing

1/2 cup honey
1/2 cup oil
1/2 cup wine vinegar
1 teaspoon salt
2 tablespoons finely chopped parsley
1 tablespoon fresh basil or 1 teaspoon dried

Combine honey, oil, wine vinegar, salt, parsley and basil. Mix well. Makes about 1½ cups dressing.

Lentils and Rice

2 large onions
1/4 cup oil
1 cup lentils
4 cups water or stock
1½ tsp salt
1/4 tsp white pepper
1/2 cup brown rice

Cut onions into thin slices. Heat oil and fry onions until lightly browned. Set aside half the onions. Rinse lentils and pick over. Put in 3-quart casserole, add water, bring to boil, and cook covered over low heat for 20 minutes. Add rice, salt, pepper, and the onions with the oil from the frying pan. Continue cooking, covered, over low heat until the lentils and rice are tender but not mushy, about 25 minutes. Top with reserved onions and garnish with parsley. Serves 3/4.

Peanut Butter Bread

2/3 cup chunk style peanut butter
2/3 cup firmly packed brown sugar
2 eggs
1/3 cup margarine, melted
1-1/2 cups milk
2 cups all-purpose flour
1-1/4 cups Ground Oat Flour
5 teaspoons baking powder
1 teaspoon salt

Grease bottom only of 9x5-inch loaf pan. Combine peanut butter, sugar, eggs and butter; mix well. Gradually add milk, mixing until well blended. Add to combined dry ingredients, mixing just until dry ingredients are moistened. Pour into prepared pan. Bake at 350 about 1 hour or until wooden pick inserted in center comes out clean. Let stand 10 minutes; remove from pan. Cool completely on wire rack. Makes 1 loaf.

English Walnut Broccoli

2 pkgs frozen chopped broccoli
1/2 cup margarine
4 tablespoons flour
4 chicken bouillon cubes crushed
2 cups milk
2/3 cup water
6 tablespoons margarine
2 cups Pepperide Farm Stuffing Mix
2/3 cup chopped walnuts

Cook broccoli and drain. Put into 1-1/2 quart baking dish. Melt 1/2 cup marg. in skillet and then blend in bouillon and flour. Gradually add milk and pour over broccoli.

Combine margarine and water and melt and pour over stuffing mix; toss gently. Add nuts and sprinkle over broccoli.

Bake 350 for 30 minutes.

Sweet and Sour Spinach Salad

1 bunch spinach, washed and dried
2 slices bacon
2 to 3 tablespoons tarragon vinegar
3 tablespoons mild-flavored honey
1 teaspoon grated lemon peel
juice of 1/4 lemon
1/2 hard-cooked egg, grated
1 tablespoon shredded sharp cheddar cheese

Remove stems from spinach and place on serving plate. Chill while preparing dressing. Fry bacon until very crisp. Drain and reserve fat. To bacon drippings add vinegar and honey. Simmer 2 minutes. Add crumbled bacon, lemon peel and juice. Spoon hot dressing over chilled spinach. Garnish with grated egg and cheese. Serve immed. Makes 1 to 2 servings.

Layered Summer Salad

4 cups shredded greens (we used romaine and escarole)
1 large cucumber, peeled, if desired and sliced thin
1 cup elbow macaroni, cooked (2 cups)
1 medium onion, sliced thin, separated in rings
1/2 pound green beans, trimmed, cut in 1-inch pieces and blanched (see note)
1 cup each salad dressing and plain yogurt
2 teaspoons caraway seed
1 cup (4 ounces) shredded cheddar cheese

In a large salad bowl layer greens, cucumber, macaroni, onion and green beans. In small bowl mix well salad dressing, yogurt and caraway seed. Pour evenly over salad. Sprinkle with cheese. Cover and refrigerate several hours or overnight. Toss just before serving. Makes 4 main-dish servings.

Apple-Oatmeal Muffins

1 cup plus 2 tablespoons quick-cooking rolled oats
1 cup buttermilk
1 teaspoon vanilla
1 cup minus 2 tablespoons flour
1 tablespoon baking powder
1 teaspoon salt
1/2 teaspoon cinnamon
1/2 teaspoon nutmeg
1/2 cup coarsely chopped walnuts
1 large tart apple, unpeeled, cored and coarsely chopped
1 cup firmly packed brown sugar
1 large egg, slightly beaten
1/4 cup butter, melted
Cinnamon for garnish, if desired

In large bowl, combine oats, buttermilk and vanilla; set aside. In medium bowl, combine flour, baking powder, salt, baking soda, cinnamon, nutmeg, nuts and apple. Add brown sugar, egg and melted butter and stir until well mixed, about one minute. Add mixture to dry ingredients, mixing only until flour disappears. Spoon mixture into well greased muffin tins, filling cups two-thirds full. Bake at 400 degrees, with oven rack in the middle of the oven, about 18 to 20 minutes, or until muffins are puffed and brown around the edges. Remove from pan and serve warm. Makes 18 muffins.

Shredded Zucchini Quiche

8 eggs
1/4 cup milk
2 cloves garlic, minced or pressed
1/4 teaspoon salt
3/4 teaspoon pepper
1/4 cup grated Parmesan cheese
1 cup (about 1/4 lb) shredded jack cheese
1 tablespoon margarine
1/4 cup wheat germ
1/2 cup (about 1/8 lb) shredded Swiss cheese
1/4 cup chopped green onion (including tops)
2 small (about 1/2 lb) zucchini, coarsely shredded

In a large bowl, beat eggs and milk together. Add garlic, salt, pepper, and Parmesan cheese and stir until well blended; set aside. Generously spread the margarine over bottom and sides of a 9 inch pie pan, then sprinkle pan with the wheat germ. Top with an even layer of the Swiss cheese, followed by onion, then zucchini. Sprinkle with the jack cheese and then pour egg mixture over all. Bake uncovered, in a 350 oven for 25 to 30 minutes or until center is set when lightly touched. Remove and place on a wire rack to cool. Serve at room temperature or chilled. Serves 6.

Zucchini Oatmeal Cookies

1/2 cup margarine
3/4 cup honey
1 egg
2 cups whole wheat flour
1 teaspoon soda
1 teaspoon cinnamon
1/4 teaspoon cloves
1/2 teaspoon nutmeg
1/4 teaspoon salt
1 cup grated zucchini
1 cup oats
1 cup chopped dates or raisins

Cream margarine with honey. Add egg and beat well. Sift together flour, soda, cinnamon, cloves, nutmeg and salt. Add flour mixture alternately with zucchini to egg mixture. Stir in oats and dates. Drop by teaspoon onto greased baking sheet. Bake at 375 degrees 10 to 12 minutes. Makes 5 dozen cookies.

Zucchini Nut Muffins

2 eggs
1/2 cup each packed brown sugar and honey
1/2 cup melted margarine
1 teaspoon vanilla
1-3/4 cups all purpose flour
1 teaspoon each soda and salt
1/2 teaspoon each baking powder and ground nutmeg
1-1/2 teaspoons ground cinnamon
1 cup granola-type cereal
1/2 cup chopped walnuts
2 cups shredded zucchini

In a large bowl, beat eggs lightly; then beat in the brown sugar, honey, melted butter, and vanilla. In another bowl, stir together the flour, soda, salt, baking powder, nutmeg, and cinnamon. Add these dry ingredients to the egg mixture and stir until just evenly moistened. Then stir in the granola, nuts and zucchini. Evenly spoon batter into 18 well greased muffin cups (2½ to 3 inches in diameter) filling each about 3/4 full. Bake 350 for 25 minutes, serve warm or cool completely.

Tamale Bean "Pie"

Filling:

1 or 2 tablespoons vegetable oil
1 medium onion, chopped
1 clove garlic, minced
1 can (16 ounces) tomatoes, including juice
1/2 cup chopped green pepper
1/4 cup chopped ripe olives
2 teaspoons chili powder
1 teaspoon salt
1 can (15 ounces) pinto beans, drained

Soft Crust:

1/4 cup stone-ground corn meal
2 cups milk
2 teaspoons vegetable oil
1/4 teaspoon salt
2 eggs, beaten lightly

Topping:

1/3 cup grated Monterey Jack or cheddar cheese

To make filling, heat oil in a large skillet or saucepan. Saute onion and garlic a few minutes, then add the rest of the filling ingredients except the beans. Simmer uncovered, stirring occasionally to break up tomatoes, for 10 to 15 minutes or until slightly thickened. Add the beans and continue to simmer lightly while making the crust.

To make the soft crust, mix corn meal and 1/2 cup of the milk and set aside momentarily. Bring the remaining milk, oil, and salt, to a light boil. Then slowly add the wet corn meal mixture while stirring. Simmer continuously, stirring, until thick and bubbly (about 5 minutes). Remove from heat and quickly stir in beaten eggs until they are well blended.

To assemble casserole, spoon half of crust mixture into the bottom of a greased 9 or 10 inch square baking dish (or equivalent). Cover with all of the filling. Then spoon on the remaining crust mixture and spread to cover. Sprinkle top with cheese. Bake in a 375 oven for 35 minutes. (Note: Crust stays soft during baking, like corn meal mush.) Serves four generously.

Tuna Mold

1 cup celery, diced
1 onion, minced
1 green pepper, diced
dry parsley
2 cans tuna
juice of 1/2 lemon - (tsp)
2 beaten eggs
1 cup matzo meal
4 tablespoons sour cream
1 teaspoon baking powder
2 tablespoons margarine
Buttered bread crumbs

Saute vegetables, starting with onions. Mix tuna, lemon juice, etc., and melted margarine. Add to vegetables, mold and put in greased dish.

Bake at 350 for 45 minutes.

APPENDIX I

PARENT DISCUSSION QUIZ

SURVEY OF SNACK BEHAVIORS

1. National Dietary Guidelines

If you were trying to improve the typical American diet, which of these foods would you recommend for between-meal snacks? (Check one from each group of three.)

1. chicken soup (commercial) _____
   fruit drinks (Hi-C) _____
   fruit juice popsicle _____

2. apple juice _____
   apple slices _____
   applesauce _____

3. graham crackers _____
   plain popcorn _____
   plain jello _____

4. whole wheat bread _____
   banana bread _____
   oatmeal cookies _____

5. tuna fish _____
   peanut butter _____
   cheddar cheese _____

2. High Nutrient Density

Check the foods that have good nutritional value for the amount of calories that they contain:

a) orange juice _____
b) sweet potatoes _____
c) carrot cake _____
d) jello _____
e) saltine crackers _____
f) milk _____
g) fruit punch _____
h) graham crackers _____
i) egg _____
j) enriched bread _____

3. Opinion Poll

Check the statements that most nearly express your opinions about snacks for children:

a) Children should not snack between meals. _____

b) Most preschoolers need between-meal snacks. _____

c) Snacks are mainly needed for their energy-producing calories. _____

d) Snacks should be avoided because they add too many calories to the daily diet. _____

e) Children should eat enough at meals so that they don't need between-meal snacks. _____

f) Foods served as snacks need to be just as nutritious as food served at mealtimes. _____

g) Snack time is a good time to serve "dessert" type foods. _____

h) Children will eat more nutritious snacks if they help to select or prepare them. _____

i) Helping to select and prepare snacks doesn't have much effect on what children actually eat. _____

j) It is all right to use food for rewards as long as it is nutritious food. _____

APPENDIX J

FORMS USED TO COMPUTE

INDEX OF NUTRITIONAL QUALITY

SNACK INQ

Name of Snack:

Component 1: Amount:
Component 2: Amount:
Component 3: Amount:

List all ingredients below and look up nutrient values in a food composition book.

	INGREDIENT	AMOUNT	K CAL ENERGY	GM PROTEIN	IU VIT A	MG VIT C	MG THIAMIN	MG RIBOFLAVIN	MG NIACIN	MG CALCIUM	MG IRON
COMPONENT 1	1.										
	2.										
	3.										
	4.										
	5.										
COMPONENT 2	1.										
	2.										
	3.										
	4.										
	5.										
COMPONENT 3	1.										
	2.										
	3.										
	4.										
	5.										
	TOTAL										

SNACK INQ

Name of Snack:

(A) NUTRIENT	(B) UNIT	(C) AMOUNT	(D) RDA(1-3)	(E) RDA(4-6)	(F) INQ(1-3)	(G) INQ(4-6)
Energy	Kcal		1300	1700		
Protein	gm		23	30		
Vit A	iu		400	500		
Vit C	mg		45	45		
Thiamin	mg		0.7	0.9		
Riboflavin	mg		0.8	1.0		
Niacin	mg		9	11		
Calcium	mg		800	800		
Iron	mg		15	10		

Total INQ
NUTRIENTS ≥1

	INQ (1-3)	INQ (4-6)
PROTEIN		
VITAMIN A		
VITAMIN C		
THIAMIN		
RIBOFLAVIN		
NIACIN		
CALCIUM		
IRON		

APPENDIX K

TYPICAL EVALUATION COMMENTS OF FILM "NUTRITION: TRY IT, YOU'LL LIKE IT" BY NATIONAL MIGRANT HEAD START CONFEREES

Westinghouse
Electric Corporation

Head Start
Health Consultation Project
Health Systems

1801 K Street, N.W.
Suite 900
Washington, D.C. 20006

(202) 833-5129, 5133

March 13, 1981

Audrey Clark, Ph.D
Pre-School Laboratory
California State University
North Ridge
North Ridge, California 91324

Dear Doctor Clark:

I can't begin to tell you how much I appreciated your sending me the film "Try It, You'll Like It" for preview at our National Migrant Head Start Workshop in San Diego, March 3-5, 1981. It added so much to my presentation. It was shown to both Director's and trainers of Migrant Head Start Programs.

I asked them to jot down some comments and these are enclosed on the yellow slips.

I would like to ask if you have any brochures on the film to distribute. Also, for what audience is it intended?

As soon as you have specific information on sales or rentals, please send it to me so I can include it to my program people.

Again, thank you so very much.

Sincerely yours,

Lois B. Earl

Lois B. Earl, R.D., M.Sc.
Regional Nutrition Coordinator
Westinghouse Health Systems/IMPD

Enclosure

TYPICAL EVALUATION COMMENTS OF FILM

"NUTRITION: TRY IT, YOU'LL LIKE IT"

Content: Excellent analogy between the different species of the animal kingdom. Animals, considered less intelligent, appear to have more common sense.
Presentation: Excellent photography but could've been more emphatic on the importance and/or reasons why we eat or should eat certain foods.
How I Can Use It: Motivate children or families to start thinking of better nutritional habits.
General Evaluation: A good film for the introduction of the importance of proper nutrition.

Good for beginning training on nutrition for
staff
parents
children

Very good film.
Applicable for all age groups.
Well made.
Clear, concise.
Similar to other films on market.

Film is very well put together--I think it could be used w/staff.
However, I don't know how relevant it is w/migrant families.

Colorful scenes.
Enjoyed comparisons with animals' (in zoo) nutrition needs with human nutrition needs.
Liked eye catching animation.
Would be a good film for staff training and parent involvement.
Information given in an entertaining way.

Straight and to the point. Clear-cut messages for both parents and staff.
Visual and captivating which is interesting.

A version in Spanish would make it more useable in our programs.
Enjoyable.

APPENDIX L

HOME ECONOMICS CLASSES
UTILIZING PROJECT MATERIALS
AND COURSE DESCRIPTIONS

HOME ECONOMICS CLASSES 'TILIZING PROJECT MATERIALS

AND COURSE DESCRIPTIONS

H EC 307 Human Nutrition: The role of carbohydrates, fats, proteins, minerals, and vitamins in human nutrition; nutritional requirements during various stages of the life cycle.

H EC 309 Child Nutrition: Nutrition of children and concomitant problems.

H EC 321 Meal Management: Factors involved in management of food for the family; selection, preparation, service of foods; management of time, money, and energy in meal preparation.

H EC 330 Child Growth and Development I:
Principles of child growth and development.

H EC 408 Community Nutrition: A study of research techniques for identifying nutritional needs of individuals and the methodology for meeting needs of those from different ethnic and socio-economic backgrounds. Field study in community nutrition problems.

H EC 431 Child Growth and Development II:
Intensive focus on theories of child development. Review of current research in selected areas of child growth and development.

H EC 431L Child Growth and Development II Lab:
Student works with Preschool Laboratory children and their parents.

H EC 433 Preschool Facilities: Organization and Relations
The philosophy and functions of the preschool are examined. Factors in organization, management, equipment and programs are identified that are appropriate to the developmental needs of the preschool child. Includes nursery school planning and program implementation.

H EC 491A-C Preschool Projects:
Individual supervised projects involve utilization of the facilities of the Preschool Laboratory.

H EC 590L (graduate education): Selected topics in the area of Home Economics (Spring, 1982: Communicating Home Economics).

APPENDIX M

EXTERIOR EVALUATION

AGENDA
FORM

EVALUATION AGENDA

8:00 - 8:15	Overview of project
8:15 - 9:00	View Audiovisual Materials "Nutrition: Try It, You'll Like It" "Index of Nutritional Quality" "I'm Hungry" "Wolfie Gets Hungry"
9:00 - 9:30	Interview 3 Parents
9:30 - 10:00	Interview 3 University Students
10:00 - 10:30	Interview 3 Children
10:30 - 11:00	Interview 2 Teachers
11:00 - 11:30	Question Project Directors
AFTERNOON	Review Final Report and "Good Nutrition: Try It, You'll Like It" Program

"Establishing Nutritious Food Practices in Early Childhood"
USDA-FNS Project 59-3198-9-70

PROJECT EVALUATION FORM

Please write your evaluation under each Project Objective.

COMPONENT I - PRESCHOOL STUDENT INSTRUCTION

Major Objective: Provide a cognitive, affective and action oriented nutrition education program which can be integrated integrated into the existing preschool curriculum.

Major Objective Evaluation:

a) Pre-post consumption index tests to determine change in character and amount of foods eaten.

b) Pre-post performance tests to determine status of understanding of objectives.

c) Observational studies - classroom activities and snacks.

d) External evaluation - Experts in nutrition and child development will evaluate the project.

COMPONENT II - STAFF IN-SERVICE TRAINING

Major Objective: Improve knowledge, attitudes and skills toward teaching nutrition education to young children. Understand the Dietary Guidelines for Americans and the Index of Nutritional Quality.

Major Objective Evaluation:

a) Pre-post test using project developed survey.

b) Observational studies of implementation of nutrition education program to childrens' learning opportunities.

c) External evaluation - Experts in nutrition and child development will evaluate the project.

COMPONENT III - MATERIALS DEVELOPMENT

Major Objective: Design multimedia cognitive, affective and action oriented nutrition education materials for young children, parents and child care providers.

Major Objective Evaluation:

Evaluation will be conducted at the activity level. Each activity will be evaluated using one or more of the following instruments:

a) Artistic appraisal by an Advisory Board of campus art and media experts.

b) Teacher ratings of the effectiveness, appropriateness, appeal and ease of use of the items.

c) Observation Techniques - Children will be observed as they interface with materials for indicators of preference and competency in use.

d) Controlled experiments - Experimental/control groups of preschool children will be given pre-post tests in nutrition concepts addressed by materials.

e) INQ analysis of foods included in recipe book.

f) Taste-test analysis of foods included in recipe book.

g) External evaluation - Experts in nutrition and child development will evaluate the project.

COMPONENT IV - FAMILY/COMMUNITY EDUCATION

Major Objective: Provide a cognitive, affective and action oriented education program for family and community members based on the Dietary Guidelines for Americans and the Index of Nutritional Quality.

Major Objective Evaluation:

a) Assessment of needs using project developed adult survey.

b) Attendance records of nutrition education events.

c) Evaluations of participants in workshops, parent education meetings, community exhibits.

d) External evaluation - Experts in nutrition and child development will evaluate this component.

APPENDIX N

PROFESSIONAL AND COMMUNITY ADVISORY BOARD

ADVISORY BOARD

NAME	PROFESSIONAL TITLE
Evis J. Coda, M.D.	Director, Kennedy Child Study Center
Seymour Eisemen, Ph.D.	Prof/Chair, Health Science Department, CSUN
Jan Fish	Coordinator, Child Development, CSUN
Annabelle Godwin	Professor of Child Development, Los Angeles Mission College
Stephen J. Howard, Ph.D.	Director of Program Development Services, San Fernando Valley Child Guidance Clinic
Ida Jaqua	Professor of Nutrition, Los Angeles Valley College
Sally Leland	Parent of Preschool Laboratory Child
Dr. Fred McMahon	Chairman, Speech Communication Department, CSUN
Dr. Jaime Mejlszenkier	Chief of Health Services, North Los Angeles County Regional Center
Suzanne R. S. Young, M.S., R.D.	Nutritionist, North Los Angeles County Regional Center
Dr. Jay F. Watson	Associate Clinical Professor, School of Dentistry, UCLA
Dolores Wulf	Dietition, Los Angeles Unified School District Children's Center Division

APPENDIX O

FORMS USED FOR RESEARCH

NORTHRIDGE SURVEY OF UNDERSTANDING NUTRITION - ADULT LEVEL (NSUN-AL)

NORTHRIDGE SURVEY OF UNDERSTANDING NUTRITION - PRESCHOOL LEVEL (NSUN-PL)

REVISED FORMS USED IN "GOOD NUTRITION: TRY IT, YOU'LL LIKE IT"

NORTHRIDGE SURVEY OF UNDERSTANDING NUTRITION - ADULT LEVEL (NSUN-AL)

NORTHRIDGE SURVEY OF UNDERSTANDING NUTRITION - PRESCHOOL LEVEL (NSUN-PL)

RESEARCH FORM

DATE_____

NORTHRIDGE SURVEY OF UNDERSTANDING NUTRITION - ADULT

Below are three meals which Frank and Mildred plan to serve their family next week. Read the meals and then answer the four questions below.

A.	B.	C.
Corned beef	Honey-baked chicken	Broiled fish
Cabbage (boiled)	Candied yams	Cornbread
Potatoes (boiled)	Margarine	Margarine
Butter	White rice (steamed)	Broccoli (steamed)
Whole milk	Non-fat milk	Non-fat milk
Apple pie	Cake with chocolate icing	Fresh fruit cup

	Circle the best answer			
1) Assuming that no salt was added during the cooking of the meals above, which one do you think has the highest salt content?	A	B	C	DK
2) If Frank and Mildred wanted to reduce the amount of saturated fat in their diet, which meal would they avoid?	A	B	C	DK
3) Which meal do you think has the highest sugar content?	A	B	C	DK
4) In your opinion which one of the meals is the "healthiest" (has highest nutritional quality)?	A	B	C	DK

.....

5) Mildred and Frank inform you that tonight they are serving fried shrimp, buttered carrots, tomato and lettuce salad with oil and vinegar dressing, whole milk, and strawberry ice cream for dinner.

Which one of the following foods could be added to this meal to improve its nutritional quality?

A. More vegetables B. Bread C. Meat D. I don't know

6) Mildred and Frank have also told you that they are trying to lose weight. If they wanted to reduce the number of calories of their dinner in the previous question (5), which one of the following would NOT help?

A. Using non-fat milk instead of whole milk.

B. Using margarine instead of butter on the carrots.

C. Boiling the shrimp instead of frying it.

D. Using less oil and vinegar dressing on their salad.

E. I don't know.

7) Frank is 39 and wants to avoid foods which contain high amounts of cholesterol. Which one of the following foods should he eat less often in order to reduce his cholesterol intake?

A. Peanut butter B. Corn oil C. Liver D. Avocado E. I don't know

8) Four year old Mark, Mildred and Frank's son is having a peanut butter and jelly sandwich and a glass of milk for lunch today. Which one of the following would be the LEAST desirable addition to that meal?

A. Tomato slices B. Carrot and celery sticks C. A slice of cheese

D. A banana E. I don't know

9) Mildred also is having a peanut butter and jelly sandwich but decided that she would drink fruit juice instead of milk with it. If you were choosing another item to balance her lunch, which of the following would be least desirable?

A. Cheddar cheese B. Yogurt C. Cottage cheese D. Eggs

F. I don't know

10) Mildred is at a restaurant and would like to order a salmon steak but it is too expensive. Which one of the following would NOT be a good substitute for the salmon?

A. Eggs B. Peanut butter C. Whole wheat bread D. Meat

E. I don't know

.....

Read the following statements and determine whether they are True (T) or False (F). Circle the appropriate letter.

T F 11) Preschool children intuitively choose foods containing the nutrients they need for growth and well being.

T F 12) To follow a low cholesterol diet one must omit entirely certain foods like eggs and fats.

T F 13) Gelatin is one of the best sources of protein and thus helps your fingernails grow long and strong.

T F 14) Rare meats are more nutritious than those cooked medium rare or well done.

T F 15) Margarine contains fewer calories than butter.

T F 16) Certain foods like fish and celery, often called brain foods, help brain tissues grow and increase intelligence.

17) When you snack, what are you most inclined to eat? (Number your three most common choices in order with 1 the most frequently chosen.)

a_____ Carbonated beverage: Diet____ Regular____

b_____ Milk

c_____ Alcoholic beverages

d_____ Fruit or vegetable juices

e_____ Water

f_____ A cookie, piece of cake or other sweet

g_____ Crackers, bread

h_____ Fruit or vegetable

i_____ Piece of cheese, luncheon meat, etc.

j_____ Potato chips, popcorn, pretzels, fritos, etc.

18) To improve your eating habits, which do you need to follow more carefully? (You may circle more than one answer.)

a. Eat food which provide only enough calories to meet my body needs and to maintain a desirable body weight. Eat fewer calories if overweight.

b. Eat relatively more complex carbohydrate foods such as whole grain, cereals, fruits and vegetables.

c. Eat less sugar.

d. Eat less foods high in total fat - Replace saturated fats with unsaturated fats.

e. Eat relatively more fish, poultry, legumes (e.g. beans, peas, peanuts) and less red meat.

f. Eat less high cholesterol foods.

g. Eat less salt.

h. All of the above are being followed.

19) In order to make a change in my present diet patterns, I need to:

a. Learn to eat new food.

b. Know how to select nutritious foods in the grocery store.

c. Know how to select nutritious foods in a restaurant.

d. Know how to manage my time better in order to prepare the most nutritious diet.

e. Know how to substitute one food for another.

f. Know how to get the most nutritious foods for the least amount of money.

IMPROVING NUTRITIONAL KNOWLEDGE

20) I would like to learn more about nutrition and food.

Yes_____ No_____

21) In learning more about nutrition and foods, I would be interested in: (More than one answer may be chosen.)

a_____ Workshops

b_____ Reading materials

c_____ Films

d_____ Other_____

USDA-FNS-59-3198-9-70
10/23/80

RESEARCH FORM

CHILD'S NAME _____ BIRTHDATE: __/__/__ DATE: __/__/__ EXAMINER: _____

NORTHRIDGE PRESCHOOL NUTRITION KNOWLEDGE TEST

PART I.
SECTION I.

IDENTIFICATION PROFICIENCY (naming, labeling foods)

MATERIALS: Bag of four (4) fruits available in the child's community (fresh or plastic models). One basket.

DIRECTIONAL: Teacher/Examiner places closed bag of 4 fruits in front of the child.

1) SAY: "LET'S SEE WHAT IS IN THIS BAG?"

2) SAY: "PUT YOUR HAND IN THE BAG AND TAKE ONE OUT. WHAT IS ITS NAME? or WHAT IS IT CALLED?"

3) Repeat instruction with three more fruits. After each fruit is labeled, place it in the basket under the testing table.

4) SCORING: Mark Right (R), Wrong (W), and Don't Know (DK) responses in appropriate space.

ALTERNATIVE PRESENTATION: If a child cannot name an item, put the four fruits in front of the child and SAY: "PUT YOUR FINGER ON THE _____" (give name of fruit). Repeat as needed.

FRUITS (4)	VERBAL RESPONSES	NONVERBAL RESPONSES (points)	CHILD'S RESPONSE AND/OR COMMENTS
1. AVOCADO	R__W__DK__	R__W__DK__	_____
2. PEAR	R__W__DK__	R__W__DK__	_____
3. GRAPEFRUIT	R__W__DK__	R__W__DK__	_____
4. DRIED APRICOTS	R__W__DK__	R__W__DK__	_____
_____	R__W__DK__	R__W__DK__	_____
_____	R__W__DK__	R__W__DK__	_____
_____	R__W__DK__	R__W__DK__	_____
_____	R__W__DK__	R__W__DK__	_____

VERBAL_____ + NONVERBAL _____ = TOTAL FRUIT SCORE _____

PART I.
SECTION II.

IDENTIFICATION PROFICIENCY (naming, labeling foods)

MATERIALS: Bag of four (4) vegetables available in the child's community (fresh or plastic models).

DIRECTIONS: Teacher/Examiner places closed bag of 4 vegetables in front of the child.

1) SAY: "LET'S SEE WHAT IS IN THIS BAG!"

2) SAY: "PUT YOUR HAND IN THE BAG AND TAKE ONE OUT. WHAT IS ITS NAME? or WHAT IS IT CALLED?"

3) Repeat instruction with three more vegetables. After each vegetable is labeled, place it in the basket with fruits under testing table.

4) SCORING: Mark Right (R), Wrong (W), and Don't Know (DK) responses in appropriate spaces.

ALTERNATIVE PRESENTATION: If a child cannot name an item, put the four vegetables in front of the child and SAY: "PUT YOUR FINGER ON THE _____" (give name of vegetable). Repeat as needed.

VEGETABLE	VERBAL RESPONSE	NONVERBAL (points)	CHILD'S RESPONSE AND/OR COMMENTS
1. PEAS (in pod)	R__W__DK__	R__W__DK__	_____
2. BROCCOLI	R__W__DK__	R__W__DK__	_____
3. YAM	R__W__DK__	R__W__DK__	_____
4. CELERY	R__W__DK__	R__W__DK__	_____
_____	R__W__DK__	R__W__DK__	_____
_____	R__W__DK__	R__W__DK__	_____
_____	R__W__DK__	R__W__DK__	_____
_____	R__W__DK__	R__W__DK__	_____

VERBAL _____ + NONVERBAL _____ = TOTAL VEGETABLE SCORE _____ 21

PART I.
SECTION III.

IDENTIFICATION PROFICIENCY (naming, labeling foods)

MATERIALS: Bag of four (4) bread products available in the child's community (fresh or plastic models).

DIRECTIONS: Teacher/Examiner places closed bag of 4 breads in front of the child.

1) SAY: "LET'S SEE WHAT IS IN THIS BAG?"

2) SAY: "PUT YOUR HAND IN THE BAG AND TAKE ONE OUT. WHAT IS ITS NAME? or WHAT IS IT CALLED?

3) Repeat instruction with three more bread products. If the child answers "bread" SAY: "WHAT KIND OF BREAD IS IT?"

4) SCORING: Mark Right (R), Wrong (W), and Don't Know (DK) responses in appropriate space.

ALTERNATIVE PRESENTATION: If a child cannot name an item, put the four products in front of the child and SAY: "PUT YOUR FINGER ON THE _____" (give name of bread product). Repeat as needed.

BREAD	VERBAL RESPONSE	NONVERBAL (points)	CHILD'S RESPONSE AND/OR COMMENTS
1. TORTILLA	R__W__DK__	R__W__DK__	_____
2. PITA BREAD	R__W__DK__	R__W__DK__	_____
3. BAGEL	R__W__DK__	R__W__DK__	_____
4. SLICE OF WHOLE WHEAT BREAD	R__W__DK__	R__W__DK__	_____
_____	R__W__DK__	R__W__DK__	_____
_____	R__W__DK__	R__W__DK__	_____
_____	R__W__DK__	R__W__DK__	_____
_____	R__W__DK__	R__W__DK__	_____

VERBAL ____ + NONVERBAL ____ = TOTAL BREAD SCORE _____

PART I.
SECTION IV.

IDENTIFICATION PROFICIENCY (naming, labeling foods)

MATERIALS: One (1) real or plastic pineapple and one (1) real or plastic zucchini

DIRECTIONS: Teacher/Examiner places the pineapple on the table in front of the child.

1) SAY: "TELL ME WHAT THIS IS."

2) Remove pineapple from table. Place zucchini on the table in front of the child.

3) SAY: "TELL ME WHAT THIS IS."

4) SCORING: Mark Right (R), Wrong (W), and Don't Know (DK) responses in appropriate space.

FOOD	RESPONSE	CHILD'S RESPONSE AND/OR COMMENTS
1. PINEAPPLE	R___W___DK___	_____
2. ZUCCHINI	R___W___DK___	_____

PART II.

CLASSIFICATION PROFICIENCY

MATERIALS: 2 large containers (basket, box, etc.) with a picture of a FRUIT on one and VEGETABLE on the other facing the child. Basket of fruits and vegetables from PART I. Plus two (2) examples (one carrot and one apple).

DIRECTIONS: Teacher/Examiner places basket with the fruits and vegetable used in PART I beside the 2 containers with pictures of a fruit and a vegetable.

1) SAY: "WATCH ME I'M GOING TO PUT AN APPLE IN THE FRUIT BASKET (or identify type of container) NOW I'LL PUT THE CARROT IN THE VEGETABLE BASKET (or identify type of container).

2) SAY: "NOW IT'S YOUR TURN. PUT THE REST OF THESE FRUITS AND VEGETABLES IN THE BASKETS (or identify container) WHERE THEY BELONG. CAREFUL! PUT THE FRUITS IN THE FRUIT BASKET (or identify container) AND THE VEGETABLES IN THE VEGETABLE BASKET (or identify container). DO IT NOW!"

3) SCORING: Mark Right (R), Wrong (W), and Don't Know (DK) responses in appropriate space.

VEGETABLES (4)	RESPONSES	FRUITS	RESPONSES	CHILD'S RESPONSE AND/OR COMMENTS
1. BROCCOLI	R__W__DK__	1. PEAR	R__W__DK__	_____
2. YAM	R__W__DK__	2. GRAPEFRUIT	R__W__DK__	_____
3. CELERY	R__W__DK__	3. DRIED APRICOT	R__W__DK__	_____
4. PEAS	R__W__DK__	4. AVOCADO	R__W__DK__	_____

TOTAL VEGETABLE _____ TOTAL FRUITS _____

PART III

MATCHING PROFICIENCY

MATERIALS: Four (4) pictures of foods (peas, dried apricots, orange juice and broccoli) and four fresh or plastic models of peas in the pod, dried apricots, and orange and broccoli placed in front of the child. Plus one example (one picture of a bagel and one bagel).

DIRECTIONS: 1) SAY: "SEE I AM PUTTING THE BAGEL ON THE PICTURE OF THE BAGEL."

2) SAY: "NOW YOU PUT THE REST OF THESE FOODS ON THE PICTURES THAT THEY ARE LIKE. MATCH THE FOOD TO THE PICTURE OF THE SAME FOOD."

3) SCORING: Mark Right (R), Wrong (W), and Don't Know (DK) responses in appropriate space.

FOODS	RESPONSES
1. PEAS	R___W___DK___
2. DRIED APRICOTS	R___W___DK___
3. ORANGE	R___W___DK___
4. BROCCOLI	R___W___DK___

CHILD'S RESPONSES AND/OR COMMENTS:

PART IV.
SECTION I.

HYGIENIC PRACTICES (Handwashing)

MATERIALS: Cake of soap, crayon, paint brush.

DIRECTIONS: Place items in front of the child.

1) SAY: "PICK UP THE ONE YOU SHOULD USE BEFORE YOU EAT." (Underline answer given.)

2) SAY: "TELL ME WHY YOU SHOULD USE IT."

A. SOAP, CRAYON, PAINT BRUSH R___ W___ DK___

B. WHY?_____

SECTION II.

HYGIENIC PRACTICES (Brushing teeth)

MATERIALS: Candy, Toothbrush, Eraser.

DIRECTION: Place items in front of the child.

1) SAY: "PICK UP THE ONE YOU SHOULD USE AFTER YOU HAVE EATEN EVERYTHING." (Underline answer given.)

2) SAY: "WHY DO YOU USE IT?"

A. CANDY, TOOTHBRUSH, ERASER R___ W___ DK___

B. WHY?_____

PART V

FOOD PREPARATION PRODICIENCY

MATERIALS: Three fruits or vegetables that need to be: washed, peeled and/or cooked.

DIRECTIONS: Place one item at a time in front of the child.

1) SAY: "WHAT SHOULD YOU DO TO THIS BEFORE YOU EAT IT?"

2) Repeat for each item. Record Child's response verbatim.

3) SCORING: Mark Right (R) for any answer that indicates child knows food must be sanitized or handled in some way before eating (e.g. cut, peel, cook, wash) and record response. Mark Wrong (W) for answers that indicate nothing needed (e.g. eat) or mark Don't Know (DK).

FOODS	RESPONSES	CHILD'S RESPONSE AND/OR COMMENTS
1) GRAPEFRUIT	R___W___DK___	_____
2) YAM	R___W___DK___	_____
3) PEAR	R___W___DK___	_____

PART VI.

FOOD CHOICE PROFICIENCY

MATERIALS: One picture of happy children glued to a piece of letter size poster board. One piece of candy, one fruit, one can soda, one cupcake and one vegetable (a carrot here).

DIRECTIONS: 1) Place candy, banana, and cupcake in front of the child. Teacher/Examiner points to the objects.

SAY: "LOOK AT THESE. TAKE THE ONE THAT WILL HELP YOU GROW STRONG. PUT IT ON THE PICTURE WITH THE HAPPY CHILDREN. DO IT NOW." (Underline the answer given.)

CANDY, BANANA, CUPCAKE R__ W__ DK__

COMMENTS:_____

2) Place a carrot, can of soda and banana in front of the child. Teacher/Examiner points to the objects.

SAY: "WHICH ONE OF THESE THINGS WILL MAKE YOUR TEETH GET CAVITIES- HOLES IN THEM IF YOU EAT LOTS OF IT. PUT YOUR FINGER ON THE ONE THAT IS NOT GOOD FOR YOUR TEETH. DO IT NOW." (Underline the answer given.)

CARROT, SODA, BANANA R__ W__ DK__

COMMENTS:_____

PART VII.

FOOD CHOICE PROFICIENCY

MATERIALS: A group of foods: One carton of milk, one can of soda, one orange, one egg, one bag of potato chips, peanut butter on crackers, and one doll.

DIRECTIONS: Place items in front of the child and hold doll.

SAY: "SEE THIS LITTLE GIRL (DOLL). SHE DIDN'T HAVE ANYTHING TO EAT AND SHE IS VERY HUNGRY. PICK OUT THE FOODS THAT ARE GOOD FOR HER AND GIVE THEM TO HER. BE SURE TO GIVE HER ONLY THE FOODS WHICH ARE GOOD FOR HER."

FOOD	CHECK IF SELECTED	SCORING	CHILD'S RESPONSES AND/OR COMMENTS
1. MILK	_____	(If selected mark (R). R__W__DK__	_____
2. SODA	_____	(If selected mark (W). R__W__DK__	_____
3. ORANGE	_____	(If selected mark (R). R__W__DK__	_____
4. POTATO CHIPS	_____	(If selected mark (W). R__W__DK__	_____
5. PEANUT BUTTER AND CRACKERS	_____	(If selected mark (R). R__W__DK__	_____
6. EGG	_____	(If selected mark (R). R__W__DK__	_____

END

Thank the child and offer him/her a reward; e.g. a piece of fruit, a carrot strip or a fruit or vegetable seal.

REVISED FORM

NAME_____ DATE _____

NORTHRIDGE SURVEY OF UNDERSTANDING NUTRITION - ADULT LEVEL
(NSUN-AL)

As you may know, to improve our health, the United States Government has outlined Dietary Guidelines for Americans. They are summarized as follows:

* Eat a variety of foods; assure yourself an adequate diet.
* Maintain ideal weight.
* Avoid too much fat, saturated fat, and cholesterol. (Eat more fish, poultry, legumes and less red meat.)
* Eat foods with adequate starch and fiber; eat more complex carbohydrates daily such as whole grains, cereals, fruits and vegetables.
* Avoid too much sugar.
* Avoid too much sodium, salt.
* If you drink alcohol, do so in moderation.

We ask for your cooperation in answering the attached items as completely as you can. The questions involve the application of the Dietary Guidelines for Americans to a person's diet. They also help to identify your food and nutrition practices and provide information on how we can help you make any dietary changes you feel are necessary.

Please fill this survey out in regards to <u>your</u> <u>own</u> eating habits.

REVISED FORM

NORTHRIDGE SURVEY OF UNDERSTANDING NUTRITION - ADULT LEVEL (NSUN-AL)

Below are three meals which Frank and Mildred plan to serve their family next week. Read the meals and then answer the four questions below.

A.	B.	C.
Corned beef	Honey-baked chicken	Broiled fish
Cabbage (boiled)	Candied yams	Cornbread
Onion soup (canned)	Margarine	Margarine
Butter	White rice (steamed)	Broccoli (steamed)
Whole milk	Non-fat milk	Non-fat milk
Apple pie	Cake with chocolate icing	Fresh fruit cup

Circle the best answer

1) Assuming that no salt was added during the cooking of the meals above, which one do you think has the highest salt content?	A	B	C	DK
2) If Frank and Mildred wanted to reduce the amount of saturated fat in their diet, which meal would they avoid?	A	B	C	DK
3) Which meal do you think has the highest sugar content?	A	B	C	DK
4) In your opinion which one of the meals is the "healthiest" (has highest nutritional quality)?	A	B	C	DK

.....

5) Mildred and Frank inform you that tonight they are serving fried shrimp, buttered carrots, tomato and lettuce salad with oil and vinegar dressing, whole milk, and strawberry ice cream for dinner.

Which one of the following foods could be added to this meal to improve its nutritional quality?

A. More vegetables B. Bread C. Meat D. I don't know

6) Mildred and Frank have also told you that they are trying to lose weight. If they wanted to reduce the number of calories of their dinner in the previous question (5), which one of the following would NOT help?

A. Using non-fat milk instead of whole milk.

B. Using margarine instead of butter on the carrots.

C. Boiling the shrimp instead of frying it.

D. Using less oil and vinegar dressing on their salad.

E. I don't know.

7) Frank is 39 and wants to avoid foods which contain high amounts of cholesterol. Which one of the following foods should he eat less often in order to reduce his cholesterol intake?

A. Peanut butter B. Corn oil C. Liver D. Avocado E. I don't know

8) Four year old Mark, Mildred and Frank's son is having a peanut butter and jelly sandwich and a glass of milk for lunch today. Which one of the following would be the LEAST desirable addition to that meal?

A. Tomato slices B. Carrot and celery sticks C. A slice of cheese

D. A banana E. I don't know

9) Mildred and her friend Laurie who is pregnant are having lunch at a restaurant. Laurie wishes to order a drink before lunch. What should she select?

A. White wine B. Light beer C. Tomato juice D. Scotch and soda

E. I don't know

10) Mildred is at a restaurant and wishes to order a meal with adequate protein. Which of the following would not be a good choice?

A. Eggs B. Peanut butter on whole wheat bread C. Ground beef patty

D. Fresh fruit salad E. I don't know

.....

Read the following statements and determine whether they are True (T) or False (F). Circle the appropriate letter.

T F 11) Preschool children intuitively choose foods containing the nutrients they need for growth and well being.

T F 12) To follow a low cholesterol diet one must omit entirely certain foods like eggs and fats.

T F 13) Gelatin is one of the best sources of protein and thus helps your fingernails grow long and strong.

T F 14) Rare meats are more nutritious than those cooked medium rare or well done.

T F 15) Margarine contains fewer calories than butter.

T F 16) Certain foods like fish and celery, often called brain foods, help brain tissues grow and increase intelligence.

17) When you snack, what are you most inclined to eat? (Number your three most common choices in order with 1 the most frequently chosen.)

a_____ Carbonated beverage: Diet_____ Regular_____

b_____ Milk

c_____ Alcoholic beverages

d_____ Fruit or vegetable juices

e_____ Water

f_____ A cookie, piece of cake or other sweet

g_____ Enriched bread, cereal or other grain product

h_____ Fruit or vegetable

i_____ Piece of cheese, luncheon meat, etc.

j_____ Potato chips, popcorn, pretzels, fritos, etc.

k_____ Other

18) How often do you adhere to the following Dietary Guidelines for Americans?

	always	most of time	sometimes	rarely	never
a. I eat foods which provide only enough calories to meet my body needs and to maintain a desirable body weight.	___	___	___	___	___
b. I eat complex carbohydrate foods such as whole grain, cereals, fruits and vegetables.	___	___	___	___	___
c. I avoid too much sugar.	___	___	___	___	___
d. I avoid foods high in total fat.	___	___	___	___	___
e. I replace saturated fats with unsaturated fats.	___	___	___	___	___
f. I eat fish, poultry, legumes (e.g., beans, peas, peanuts) and less red meat.	___	___	___	___	___
g. I avoid high cholesterol foods.	___	___	___	___	___
h. I avoid too much salt.	___	___	___	___	___
i. I avoid excess intake of alcoholic beverages.	___	___	___	___	___

19) In order to make a change in my present diet patterns, I need to: (More than one answer may be checked.)

a. _____ Learn to eat new foods.

b. _____ Know how to select nutritious foods in the grocery store.

c. _____ Know how to select nutritious foods in a restaurant.

d. _____ Know how to manage my time better in order to prepare the most nutritious diet.

e. _____ Know how to substitute one food for another.

f. _____ Know how to get the most nutritious foods for the least amount of money.

20) I would like to learn more about nutrition and food.

YES_____ NO_____

21) In learning more about nutrition and foods, I would be interested in: (More than one answer may be chosen.)

a. _____ Discussion Groups

b. _____ Workshops (Including food preparation)

c. _____ Reading Materials

d. _____ Films

e. _____ Other:_____

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REVISED FORM

CHILD'S NAME_____ BIRTHDATE: / / DATE: / / EXAMINER:_____

NORTHRIDGE SURVEY OF UNDERSTANDING NUTRITION - PRESCHOOL LEVEL
(NSUN-PL)

PART I.
SECTION 1.

IDENTIFICATION PROFICIENCY (naming, labeling foods)

MATERIALS: Bag of four (4) fruits; avocado, pear, grapefruit, dried apricots (fresh or plastic replicas). One large container

DIRECTIONS: Teacher/Examiner places closed bag of 4 fruits in front of the child.

1) SAY: "LET'S SEE WHAT IS IN THIS BAG?"

2) SAY: "PUT YOUR HAND IN THE BAG AND TAKE ONE. BE SURE TO TAKE OUT ONLY ONE. WHAT IS ITS NAME? or WHAT IS IT CALLED?"

3) After the child has responded, SAY: "NOW TAKE ANOTHER ONE OUT OF THE BAG. WHAT IS ITS NAME?"

4) Repeat instruction for two remaining fruits. After each fruit is labeled, place it in the container under the testing table.

5) SCORING: Mark right (R), wrong (W), and don't know (DK) responses in appropriate space.

ALTERNATIVE PRESENTATION: If the child was unable to correctly name one or more of the fruits, put all four fruits in front of the child and SAY: "PUT YOUR FINGER ON THE AVOCADO" Repeat for remaining three fruits.

FRUITS (4)	VERBAL RESPONSES	NONVERBAL RESPONSES (points)	CHILD'S RESPONSE AND/OR COMMENTS
1. AVOCADO	R___W___DK___	R___W___DK___	_____
2. PEAR	R___W___DK___	R___W___DK___	_____
3. GRAPEFRUIT	R___W___DK___	R___W___DK___	_____
4. DRIED APRICOTS	R___W___DK___	R___W___DK___	_____

SCORING:

Number Verbal Right (R) _____ X 2 _____

PLUS

Number Nonverbal Right (R) _____ X 1 _____

(If a child scores 8 on verbal, automatically mark 4 right (R) for nonverbal)

EQUALS

Sub-total Part I, Section 1 _____

PART I.
SECTION 2.

IDENTIFICATION PROFICIENCY (naming, labeling foods)

MATERIALS: Bag of four (4) vegetables; peas-in-pod, broccoli, yam, celery (real or plastic replicas).

DIRECTIONS: Teacher/Examiner places closed bag of 4 vegetables in front of the child.

1) SAY: "LET'S SEE WHAT IS IN THIS BAG?"

2) SAY: "PUT YOUR HAND IN THE BAG AND TAKE ONE. BE SURE TO TAKE ONLY ONE. WHAT IS ITS NAME? or WHAT IS IT CALLED?"

3) After the child has responded, SAY: "NOW TAKE ANOTHER ONE OUT OF THE BAG. WHAT IS ITS NAME?"

4) Repeat instruction for two remaining fruits. After each vegetable is labeled, place it in the container under the testing table.

5) SCORING: Mark right (R), wrong (W), and don't know (DK) responses in appropriate space.

ALTERNATIVE PRESENTATION: If the child was unable to correctly name one or more of the vegetables, put all four vegetables in front of the child and SAY: "PUT YOUR FINGER ON THE PEAS." Repeat for remaining three vegetables.

VEGETABLES (4)	VERBAL RESPONSES	NONVERBAL RESPONSES (points)	CHILD'S RESPONSE AND/OR COMMENTS
1. PEAS (in pod)	R___W___DK___	R___W___DK___	_____
2. BROCCOLI	R___W___DK___	R___W___DK___	_____
3. YAM	R___W___DK___	R___W___DK___	_____
4. CELERY	R___W___DK___	R___W___DK___	_____

Number Verbal Right (R) _____ X 2 ____

PLUS

Number Nonverbal Right (R) _____ X 1 ____

(If a child scores 8 on verbal, automatically mark 4 right (R) for nonverbal)

EQUALS

Sub-total Part I. Section 2 ____

PART I.
SECTION 3.

IDENTIFICATION PROFICIENCY (naming, labeling foods)

MATERIALS: Bag of four (4) breads; tortilla, pita bread, bagel, slice of whole wheat bread (real or plastic replicas)

DIRECTIONS: Teacher/Examiner places closed bag of 4 breads in front of the child.

1) SAY: "LET'S SEE WHAT IS IN THIS BAG?"

2) SAY: "PUT YOUR HAND IN THE BAG AND TAKE ONE. BE SURE TO TAKE ONLY ONE. WHAT IS ITS NAME? or WHAT IS IT CALLED?"

3) After the child has responded, SAY: "NOW TAKE ANOTHER ONE OUT OF THE BAG. WHAT IS ITS NAME?"

4) Repeat instruction for two remaining breads. After each bread is labeled, place it in the container under the testing table.

5) SCORING: Mark right (R), wrong (W), and don't know (DK) responses in appropriate space.

ALTERNATIVE PRESENTATION: If the child was unable to correctly name one or more of the breads, put all four breads in front of the child and SAY: "PUT YOUR FINGER ON THE TORTILLA." Repeat for remaining three breads.

BREADS (4)	VERBAL RESPONSES	NONVERBAL RESPONSES (points)	CHILD'S RESPONSE AND/OR COMMENTS
1. TORTILLA	R___W___DK___	R___W___DK___	_____
2. PITA BREAD	R___W___DK___	R___W___DK___	_____
3. BAGEL	R___W___DK___	R___W___DK___	_____
4. SLICE OF WHOLE WHEAT BREAD	R___W___DK___	R___W___DK___	_____

SCORING:

Number Verbal Right (R) _____ X 2 _____

PLUS

Number Nonverbal Right (R) _____ X 1 _____

(If a child scores 8 on verbal, automatically mark 4 right (R) for nonverbal)

EQUALS

Sub-total Part I, Section 3 _____

PART II.

CLASSIFICATION PROFICIENCY

MATERIALS: 2 large containers (basket, box, etc.) with a picture of a FRUIT on one and VEGETABLE on the other facing the child. Basket of fruits and vegetables from PART I. Plus two (2) examples (one carrot and one apple).

DIRECTIONS: Teacher/Examiner places basket with the fruits and vegetables used in PART I beside the 2 containers with pictures of a fruit and a vegetable.

1) SAY: "WATCH ME I'M GOING TO PUT AN APPLE IN THE FRUIT BASKET. NOW I'LL PUT THE CARROT IN THE VEGETABLE BASKET."

2) SAY: "NOW IT'S YOUR TURN. PUT THE REST OF THESE FRUITS AND VEGETABLES IN THE BASKETS WHERE THEY BELONG. CAREFUL! PUT THE FRUITS IN THE FRUIT BASKET AND THE VEGETABLES IN THE VEGETABLE BASKET. DO IT NOW!"

3) SCORING: Mark right (R), wrong (W), and don't know (DK) responses in appropriate space.

VEGETABLES (4)	RESPONSES	FRUIT (4)	RESPONSES	CHILD'S RESPONSE AND/OR COMMENTS
1. BROCCOLI	R___W___DK___	1. PEAR	R___W___DK___	_____
2. YAM	R___W___DK___	2. GRAPEFRUIT	R___W___DK___	_____
3. CELERY	R___W___DK___	3. DRIED APRICOT	R___W___DK___	_____
4. PEAS (in pod)	R___W___DK___	4. AVOCADO	R___W___DK___	_____

SCORING:

Number Vegetables (R) _____ X 2 _____

PLUS

Number Fruits (R) _____ X 2 _____

EQUALS

Sub-total Part II _____

PART III.

MATCHING PROFICIENCY

MATERIALS: Four (4) pictures of foods (peas, dried apricots, orange juice and broccoli) and four (4) fresh or plastic replicas of peas in the pod, dried apricots, orange and broccoli are placed in front of the child. Plus two examples (one picture of a bagel and one bagel and one picture of a fried egg and one hard cooked egg).

DIRECTIONS: 1) SAY: "SEE, I AM PUTTING THE BAGEL ON THE PICTURE OF THE BAGEL. NOW, I AM PUTTING THE HARD COOKED EGG ON THE PICTURE OF THE FRIED EGG."

2) SAY: "NOW YOU PUT THE REST OF THESE FOODS ON THE PICTURES THAT THEY ARE LIKE. MATCH THE FOOD TO THE PICTURE OF THE SAME FOOD."

3) SCORING: Mark right (R), wrong (W), and don't know (DK) responses in appropriate space.

FOODS	RESPONSES	CHILD'S RESPONSES AND/OR COMMENTS:
1) PEAS	R___W___DK___	_____
2) DRIED APRICOTS	R___W___DK___	_____
3) ORANGE	R___W___DK___	_____
4) BROCCOLI	R___W___DK___	_____

SCORING:

Number right (R) _____

X 1

Sub-total Part III _____

PART V

FOOD PREPARATION PROFICIENCY

MATERIALS: Three fruits or vegetables that need to be: washed, peeled and/or cooked.

DIRECTIONS: Place one item at a time in front of the child.

1) SAY: "WHAT SHOULD YOU DO TO THIS BEFORE YOU EAT IT?"

2) Repeat for each item. Record Child's response verbatim.

3) SCORING: Mark right (R) for any answer that indicates child knows food must be sanitized or handled in some way before eating (e.g., cut, peel, cook, wash) and record response. Mark wrong (W) for answers that indicate nothing needed (e.g., eat) or mark don't know (DK).

FOODS	RESPONSES	CHILD'S RESPONSE AND/OR COMMENTS
1) GRAPEFRUIT	R___W___DK___	_____
2) YAM	R___W___DK___	_____
3) PEAR	R___W___DK___	_____

Two items out of three must be correct to receive two points for this section.

Sub-total Part V _____

PART IV.
SECTION 1.

HYGIENIC PRACTICES (Handwashing)

MATERIALS: Cake of soap, crayon, paint brush

DIRECTIONS: Place items in front of the child.

1) SAY: "PICK UP THE ONE YOU SHOULD USE BEFORE YOU EAT." (Underline the answer given.)

2) SAY: "TELL ME WHY YOU SHOULD USE IT."

A. SOAP, CRAYON, PAINT BRUSH R___W___DK___ Number (R) _____

PLUS

b. WHY? _____ SCORE _____

(0 = wrong or no answer)
(1 = functional answer: example, "to clean them") EQUALS
(2 = health implication answer: example, "To kill germs")

Sub-total Section 1 _____

SECTION 2.

HYGIENIC PRACTICES (Brushing Teeth)

MATERIALS: Candy, toothbrush, eraser

DIRECTIONS: Place items in front of the child.

1) SAY: "PICK UP THE ONE YOU SHOULD USE AFTER YOU HAVE EATEN EVERYTHING." (Underline answer given.)

2) SAY: "WHY DO YOU USE IT?"

A. CANDY, TOOTHBRUSH, ERASER R___W___DK___ Number (R) _____

PLUS

B. WHY? _____ SCORE _____

(0 = wrong or no answer)
(1 = functional answer: example, "to wash them") EQUALS
(2 = health implication answer: example, "so you won't get cavities or holes")

Sub-total Section 2 _____

PLUS

Sub-total Section 1 _____

EQUALS

Sub-total Part IV _____

PART VI.

FOOD CHOICE PROFICIENCY (Healthful Foods)

MATERIALS: One picture of happy children glued to a piece of letter size poster board. One piece of candy, one fruit, one can soda, one cupcake and one vegetable (a carrot here).

DIRECTIONS: 1) Place candy, banana, and cupcake in front of the child. Teacher/Examiner points to the objects.

SAY: "LOOK AT THESE. TAKE THE ONE THAT WILL HELP YOU GROW STRONG. PUT IT ON THE PICTURE WITH THE HAPPY CHILDREN. DO IT NOW." (Underline the answer given.)

CANDY, BANANA, CUPCAKE R___W___DK___

COMMENTS: _____

2) Place a carrot, can of soda and banana in front of the child. Teacher/Examiner points to the objects.

SAY: "WHICH ONE OF THESE THINGS WILL MAKE YOUR TEETH GET CAVITIES - HOLES IN THEM - IF YOU EAT LOTS OF IT. PUT YOUR FINGER ON THE ONE THAT IS NOT GOOD FOR YOUR TEETH. DO IT NOW."

CARROT, SODA, BANANA R___W___DK___

COMMENTS: _____

SCORING:

Number right (R) _____

X 2

Sub-total Part VI _____

PART VII.

FOOD CHOICE PROFICIENCY (Index of Nutritional Quality)

MATERIALS: A group of food: One carton of milk, one can of soda, one orange, one egg, one bag of potato chips, peanut butter on crackers, and one doll.

DIRECTIONS: Place food items to one side in front of the child and the doll to the other. Be sure all items are within the child's reach.

SAY: "SEE THIS LITTLE GIRL (DOLL). SHE DIDN'T HAVE ANYTHING TO EAT AND SHE IS VERY HUNGRY. PICK OUT THE FOODS THAT ARE GOOD FOR HER AND GIVE THEM TO HER. BE SURE TO GIVE HER ONLY THE FOODS WHICH ARE GOOD FOR HER."

FOOD	CHECK IF SELECTED	SCORING	CHILD'S RESPONSE AND/OR COMMENTS
1. MILK	_____	(If selected mark (R). R___W___DK___	_____
2. SODA POP	_____	(If selected mark (W). R___W___DK___	_____
3. ORANGE	_____	(If selected mark (R). R___W___DK___	_____
4. POTATO CHIPS	_____	(If selected mark (W). R___W___DK___	_____
5. PEANUT BUTTER AND CRACKERS	_____	(If selected mark (R). R___W___DK___	_____
6. EGG	_____	(If selected mark (R). R___W___DK___	_____

SCORING:

Number right (R) _____

X 2

Sub-total Part VII _____

END

Thank the child and offer him/her a reward; e.g., a piece of fruit or a fruit or vegetable seal.

FINAL SCORING	TOTAL POSSIBLE	CHILD'S SCORE
SUB-TOTAL PART I	(36)	
Section 1	(12)	_____
Section 2	(12)	_____
Section 3	(12)	_____
SUB-TOTAL PART II	(16)	_____
SUB-TOTAL PART III	(4)	_____
SUB-TOTAL PART IV	(6)	_____
SUB-TOTAL PART V	(2)	_____
SUB-TOTAL PART VI	(4)	_____
SUB-TOTAL PART VII	(12)	_____
EQUALS		
TOTAL SCORE	(80)	_____